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U.S. Department of the Interior
Bureau of Land Management

Casper District Office April 1994

94-026917

Decision Record
and
Finding of No Significant Impact
for the
Environmental Assessment

Predatory Animal Damage Control on Public Lands

Campbell, Converse, Crook, Goshen, Johnson, Natrona, Niobrara, Platte, Sheridan, and Weston Counties, Wyoming

proposed by:

U.S. Department of Agriculture
Animal and Plant Health Inspection Service

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The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield; a combination of uses that take into account the long term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.

BLM/WY/ES-94/010+4210

WY-062-4-027

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
CASPER DISTRICT OFFICE
1701 East E Street
Casper, Wyoming 82601

Dear Reader:

The enclosed Decision Record/Finding of No Significant Impact approves a Predatory Animal Damage Control Plan for the Casper District of the Bureau of Land Management (BLM). The decision is based on the review comments from eight individuals and organizations on the Environmental Assessment (EA) released in February 1994. As a result of those comments the EA has been rewritten and a copy of the revised EA is attached.

The EA was prepared by BLM in cooperation with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service-Animal Damage Control Division (APHIS-ADC) and applies only to BLM-administered public land in the Casper District. Four alternatives to the APHIS-ADC proposed action of animal damage control in six counties including M-44s were analyzed. Alternative one - ADC in ten counties, including M-44s. Alternative two - ADC on public lands in all ten counties with no authorization to use M-44s, and no steel traps or snares in Goshen, Niobrara, or Platte counties to protect the swift fox which is a federal category two candidate species. This is the selected alternative. Number three or the no action alternative, would not allow ADC activities to take place on the public lands in the Casper District. Alternative four would continue the current emergency control procedures. The approved ADC plan conforms to the District's land use plans and requires no amendments.

The BLM and APHIS-ADC wish to thank the public who participated in the review of the EA. Your involvement has greatly enhanced our ability to complete a thorough analysis of the APHIS-ADC proposal and to make an informed decision.

For further information or additional copies of the Decision Record/Finding of No Significant Impact and revised EA, please contact Glen Nebeker of my staff at (307)261-7600.

Sincerely,

Donald H Hinrichsen

Donald Hinrichsen
Casper District Manager

DECISION RECORD
and
FINDING OF NO SIGNIFICANT IMPACT

for
ENVIRONMENTAL ASSESSMENT WY-062-4-027

The subject Environmental Assessment (EA) was prepared for the Animal Damage Control Plan in the Casper District. This plan was prepared by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service - Animal Damage Control (APHIS-ADC) and represents the "Proposed Action" of the agency. The decision before the BLM is whether to approve this plan, approve a modified plan, or to disapprove the plan. The BLM official authorized to make this decision is the Casper District Manager.

DECISION

Based upon the analysis in the environmental assessment, it is my decision to select Alternative 2. This alternative allows AHPIS-ADC activities within the entire Casper District. Under this alternative no M-44s would be authorized for use on public lands within the Casper District. There would be no authorization of steel leg-hold traps or snares on the public lands in Goshen, Niobrara and Platte counties. The attached APHIS-ADC Plan is approved as modified. The decision calls for the use of a wide range of nonlethal and lethal controls to be used primarily on coyotes, red fox, and other carnivores within the Casper District. Control actions will be directed as much as possible at individual offending animals or groups of offending animals. At certain critical times of the year, such as lambing season, actions may be taken to suppress local populations of coyotes in areas known to have suffered predation problems. These actions will be short-term and are not aimed at the eradication of any local population of any target species.

All mitigation included in the Plan will be followed which includes measures to protect nontarget species, and to implement measures recommended by the U.S. Fish and Wildlife Service for the protection of Threatened and Endangered Species. APHIS-ADC would continue to monitor all available indicators of the populations of target species and use this information in the development of future plans. APHIS-ADC would begin to conduct scent-post surveys in selected areas to monitor for unanticipated impacts to local populations, and annually report their findings to BLM.

ALTERNATIVES CONSIDERED IN THE EA

The EA considered the Proposed Action and three alternatives in detail. The Proposed Action as submitted by APHIS-ADC is an integrated plan combining the use of lethal and non-lethal techniques to control the loss of livestock to predation. Within a "Planned Control" area, measures would be implemented both to control individual offending animals and to suppress local offending populations at critical times. Mitigation is included to protect nontarget species and human health and safety. The use of M-44s on public lands is contained in the APHIS-ADC Proposed Action and Alternative 1. The Proposed Action applies only to those counties that currently are under cooperative agreements with APHIS in the Casper District. BLM administered lands represent 4.7 percent of the surface acres in those counties.

Under Alternative 1, the ADC Plan would be modified and APHIS would be authorized to conduct nonlethal and lethal control activities on public lands in all counties in the Casper District. The public lands affected make up 11 percent of the surface acres in the district. In analyzing the impacts of Alternative 1, certain anticipated actions must be considered. APHIS-ADC receives an important share of its funding (40 percent) from the County Predatory Animal Boards (PABs). For the PABs, however, contracting with APHIS-ADC is optional. If APHIS-ADC is restricted in its operations on public lands, the PABs may elect to withdraw this funding and redirect it towards alternative strategies. Under Alternative 1, it is likely that one or more PABs would withdraw APHIS-ADC funding. Among the alternative strategies to which this funding would be directed are contracting with private individuals for control, establishing a bounty, and/or holding contests or other organized "shoots." With the exception of restrictions on aerial hunting, none of the mitigation described in the Proposed Action could be applied to private individuals.

Alternative 2, the selected alternative is the same as Alternative 1 with "No Use of M-44 Devices." Because of the high degree of controversy within the general public as to the use, effectiveness, and safety of the M-44 device, this alternative eliminates this control method from use by APHIS-ADC on public lands in the Casper District. No steel leg-hold traps or snares would be authorized in Goshen, Niobrara and Platte to prevent any possible take of the Swift Fox, a Federal Category 2 Candidate Species, from ADC activities on the public lands in those counties.Under the No Action Alternative the *Animal Damage Control Act of 1931, as amended* could not be implemented on BLM managed land. It is, nevertheless, within the discretion of BLM to restrict or deny use of individual methods or techniques, either seasonally or by locale where justification warrants.

Alternative 3 is the "No Action" Alternative. Under this alternative, no ADC operations would be authorized on BLM administered public lands in the Casper District.

Alternative 4 is the continuation of the BLM Emergency Control Process.

RATIONALE FOR THE DECISION

It was demonstrated in the EA that predation on domestic livestock is an economic problem for stockgrowers using public lands, and that an integrated program of predator control using a range of lethal and nonlethal tools is effective in reducing this loss. The ADC Plan proposed in Alternative 2 is such an integrated program and best meets the dual objective of 1) allowing APHIS-ADC to carry out its livestock protection duties mandated by the Animal Damage Control Act of 1931, and 2) relieving concern and apprehension among segments of the public that the use of M-44s is unnecessary and unsafe.

A statewide high level of concern and opposition was expressed by the public to the use of sodium cyanide and the M-44 device Four reasons were expressed repeatedly: 1) sodium cyanide is comparable to 1080 and therefore will have secondary poisoning effects; 2) the M-44 will attract and kill personal hunting dogs or pets when they are out being exercised or hunting; 3) sodium cyanide is an inhumane method of taking predators; and 4) the M-44 could cause the death of a human.

Alternative 2 also makes AHPISs ADC program available to all counties in the Casper District if they should so decide to participate in the program. Because the Swift Fox is susceptible to being caught in steel leghold traps and snares, public lands in Goshen, Niobrara and Platte will not be available for the use of those traps . The three counties mentioned are those that have been identified as having or possible residence of the Swift Fox. Mitigation included in the Plan would minimize or prevent impacts to nontarget species. The stipulations on control activities in the Plan are not likely to cause significant long-term impacts to populations of target species, which are demonstrated in the EA to be stable to increasing.

APHIS-ADC would be allowed to implement control activities in Johnson, Campbell, Natrona, and Converse counties if agreements are developed with the local Predator Control Boards or with local individuals. This would allow APHIS-ADC to perform animal damage control according to the approved ADC plan on the public lands in those counties.

COMPLIANCE AND MONITORING

The BLM and the APHIS-ADC will maintain contact throughout the year to discuss the continued implementation of the approved plan. At the annual strategy meeting, the indicators of predator population trends will be reviewed and compared with the data presented in this EA. The results of the scent-post surveys will be reviewed to determine the effects on local populations and the locations for these surveys in the coming year. The loss data from the previous year will be used to determine the "Planned Control" area for the coming year. If it is decided that a new EA is not necessary, the EA would be modified or supplemented with all available current data and a new Decision Record would be signed.

FINDING OF NO SIGNIFICANT IMPACT

Based on the attached EA and the assessment of impacts, I find that Alternative 2 would not have a significant impact on the human environment, and therefore conclude that the preparation of an Environmental Impact Statement is not necessary. Critical elements of the human environment, including air quality, Areas of Critical Environmental Concern, cultural resources, Native American religious concerns, prime and unique farmlands, floodplains, hazardous wastes, water quality, threatened or endangered species, wetlands and riparian zones, wild and scenic rivers, and wilderness will not be impacted as a result of this decision's implementation.

APPEALS

This represents the final decision of the Casper, District Manager. Appeals of this decision are governed by the regulations of 43 CFR 4.400 et seq. Persons adversely affected by this decision may appeal to the Interior Board of Land Appeals (IBLA). If you wish to do so, you must file your Notice of Appeal in writing within 30 days from the date of this decision with the Casper District Manager, Bureau of Land Management, 1701 East 'E' Street,Casper, Wyoming 82601. Any Petition for Stay accompanying the Notice of Appeal must be in conformance with 43 CFR 4.21 (a)(2). The Notice of Appeal shall state clearly and concisely why you think the decision is in error. A copy of the Notice of Appeal must be served, within 15 days, on the Regional Solicitor, Rocky Mountain Region, U.S. Department of the Interior, P.O. Box 25007, Denver Federal Center, Denver, CO 80225. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied,
(2) The likelihood of the appellant's success on the merits,
(3) The likelihood of immediate and irreparable harm if the stay is not granted, and
(4) Whether the public interest favors granting the stay.

Donald Hinrichsen

4-1-94

Donald Hinrichsen, Casper District Manager
Bureau of Land Management

Date

Animal Damage Control Plan

Introduction

The approved ADC plan specifies where, when, and under what restrictions animal damage control operations would be carried out as mutually agreed by the agencies. It applies to BLM administered public lands in the ten counties within the Casper District. This ADC plan would be reviewed annually and a letter of authorization with amendments, if needed, would be prepared by the Casper BLM District Manager. That letter, together with this plan, would be a yearly plan of operation. This plan shall remain in effect until a new plan is adopted. Examples of amendments which could occur include changes in category of control, methods of control, or target animals. Interested parties would be invited to inspect the annual plan. If changes are made the EA will be reviewed to determine if a supplemental assessment should be prepared.

APHIS' ADC program in the Casper District compiles data received from individuals who request ADC assistance using the following forms: Project Report (ADC Form 14), Damage Control Request (USDI Form 10/71), Weekly Field Activity Report (ADC Form 15), and Monthly Field Activity Report (ADC Form 16). This specific information provides documentation on verified losses, reported losses, techniques used, and wildlife species affected.

The coyote is the principal target species, and control operations would generally concentrate on this animal. The overall intent is to reduce animal depredations as quickly as possible by directing ADC activities toward individual coyotes or local populations where historical or ongoing losses have been verified, requested, or are likely to occur (based on local populations and abundance of natural prey species). Local populations may include several animals within their established home range and may extend for several miles.

ADC activities would take into consideration those actions listed below. The district base map 1 and control categories were developed and based on the following criteria:

1. The effect of the proposed control program including potential conflicts on other authorized uses and resources on the land in question.

2. The need for, and objectives of, control measures based on agriculture production, protection of livestock, wildlife, and other resources, and watershed management.

3. Identification of target species, possible affected species, planned methods of control, and applicable restrictions.

4. Conformance to existing regulations, land management plans, established policies, planned uses of recreational areas, areas of human habitation, and other land management practices.

5. Authorization of research necessary to develop a data base for the registration or implementation of new control or preventative methods.

6. The need for ADC programs which can address public health and safety concerns, including disease outbreaks within the district.

7. The need for control measures to protect endangered species or to safeguard wildlife species affected by predation.

Description of ADC Techniques

Nonlethal Control

ADC encourages and implements a cooperative integrated predator management approach whenever physically and economically possible. Frequently, some form of nonlethal predator control is used by the livestock producer before implementing lethal control, and may include one or more of the following nonlethal methods.

Livestock-guarding animals are used by livestock operators, are frequently recommended by ADC, and may include guard dogs, llamas, or donkeys.

Sheepherders (shepherds) are used by livestock producers to protect their live-stock.

Fencing is used where appropriate and is recommended often. It may consist of conventional or electrical fence.

Strobe lights and sirens are battery powered portable units which are available through the ADC program and frequently reduce predation in specific short-term situations.

Zon guns (propane cannons) are also effectively used on a temporary basis in reducing predation and are available through the ADC program.

Lethal Control

Lethal control is used when nonlethal control implemented by livestock operators has failed to prevent losses or when the potential risk of loss is high. Direct lethal control is aimed at individual animals responsible for the loss and may also be used on populations of a species within a certain distance of the loss. APHIS takes strict measures to ensure public safety, and protection of threatened or endangered wildlife, as well as protection of domestic livestock. The following are lethal control methods.

Aerial Shooting. Aerial shooting is widely used as a predator control method and is ideally suited in areas where vegetation and terrain do not preclude its use. The technique is not always selective for specific problem individuals but is species-specific and local population-specific since visual identification is a prerequisite for shooting. Fixed-wing aircraft are useful mainly over flat or gently rolling terrain. Because of their maneuverability, helicopters have greater utility over brushy ground, timbered areas, or rough terrain where animals are most difficult to spot. Good visibility is required for effective and safe operations, necessitating relatively clear and stable weather conditions. High temperatures, which reduce air density and safety of low-level flight, hinder aerial shooting. In most areas aerial shooting is most effective in winter with snow cover because the summer vegetation re-duces visibility of the coyote. This method is usually very costly per coyote "con-trolled."

The use of rotor-wing and fixed-wing aircraft would be authorized in all planned control areas. Aerial shooting by APHIS-ADC is closely supervised by APHIS to ensure that all applicable policies, regulations, and laws are followed. ADC would inform the BLM when and where aerial hunting would be undertaken. APHIS-ADC personnel in "hot pursuit" of a target animal by aircraft may pursue it into a "no planned control" or limited control area unless an obvious conflict would occur, such as approaching a dwelling or flying over a wintering elk or mule deer herd.

Ground Shooting. Some predators are shot from the ground, with or without the aid of predator calls. Ground shooting can be selective for the target species, but being sure that the animal being called is the offending animal is often next to impossible. Ground shooting can be directed at specific problem animals or used where other tools are not applicable because of hazards or weather conditions. Additionally, a hand-held call that mimics an injured rabbit, other prey species, or coyote pups, may be used to lure predators within gun range. Sirens on trucks are also used to elicit coyote howls for location. Visual identification of the target species before shooting assures that nontarget animals are not taken. This method may be relatively expensive because of the staff hours often required.

Trapping. The offset steel leg-hold trap is the most versatile and widely used tool for predator damage control. Traps are considered to be a non-lethal mechanical capture device, since disposition of the trapped animal is left to the discretion of the individual using them. In most cases, however, the trapped animal is killed. Scent sets are those which rely on a small amount of olfactory attractants placed nearby to entice the animal into the trap. Scent formulas vary but their objective is to attract target animals. The selectivity of steel leg-hold traps for targeting specific predator species is a function of effective and proper trapping techniques.

The use of all traps and trapping devices by APHIS-ADC employees shall be in compliance with federal, state, and local laws, rules, and regulations, and would be authorized in all planned control areas. Traps are not allowed to be set less than 30 feet from an animal carcass.

No steel leg-hold traps are authorized on the public lands in Goshen, Niobrara and Platte Counties.

Live Trapping. This technique is used primarily in controlling rabid skunks during isolated outbreaks of rabies. It is considered a technique used to supplement the use of leg-hold traps. This method incorporates the use of live traps to live capture target species where livestock and wildlife depredation occurs and is very selective in application. This method is often used in residential areas where other methods would be inappropriate and cause a risk to human safety.

Snares. No snares are authorized on the public lands in Goshen, Niobrara or Platte counties to protect the Swift Fox, a Federal Category 2 Candidate Species.

Two types of snares are used: the neck snare and the leg snare. The neck snare is composed of a flexible wire cable that is placed through holes in fences and other small openings such as dens. They are used primarily in areas of extensive woven or net wire fencing. The snare is fashioned into a loop that is placed to encircle the animal's neck as it passes through or under the fence. The end of the snare cable is anchored to a solid object. A simple locking device which allows only tightening of the loop, causes strangulation of the snared animal.

Leg snares are constructed of flexible wire cable with a locking device which holds the loop closed on the animal's leg. The cable size is commensurate with the size of the target animal. Leg snares are used primarily in "cubby" sets or cover "blind" sets with an attractant bait placed a short distance from the snare.

The use of snares by ADC employees shall be in compliance with federal, state, and local laws, rules, and regulations, and would be authorized in all planned control areas.

Denning. In the spring of the year the female gives birth to young generally in an earthen burrow in the ground. Denning is the location and removal of the young from their den by excavating the den by hand, injecting smoke into the den to drive the animals out, or occasionally having a small dog retrieve them. The young are then destroyed, usually with a small caliber firearm. Denning is highly selective for the target species. It is also effective in reducing or eliminating predation in

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specific areas because the need to provide food for young is removed.

Where authorized by BLM, use of chemical toxicants for animal damage control would conform to all federal, state, and local regulations. Only zinc phosphide would be used on public land.

M-44's. No M-44's will be authorized on the public lands in the Casper district.

Other Techniques

Other control techniques which are described as humane control methods but, to our knowledge, have not advanced to the stage where they could be labeled as practical field tools are available. For example, there is research ongoing in immunocontraception (reproduction control) and sterility tests. Taste aversion methods have been used widely in Canada but have not been used in the United States to any extent. These techniques are presently unavailable for use.

Planned ADC Activities

Predator damage control work is planned and authorized on an allotment or area basis. Following compilation of annual data, the proposed operations would be discussed and decisions would be made at the annual (more often, if needed) meeting between APHIS-ADC and BLM for needs and priorities for control. The methods used, control periods, and restrictions relate to specific areas which would be discussed and authorized each year.

Preventative predator damage control may be authorized when APHIS-ADC has made an evaluation and determined that livestock losses have occurred based on historic in-formation. Control operations may be initiated before predator losses occur and before introducing livestock to a specific area with annual or documented predator losses. This would be done through annual preventative damage control requests made by permittees, when livestock are introduced into new areas, or if predators inhabit BLM-administered public lands that border private lands where predation is historical, ongoing, or may occur. To effectively address the large home range and resulting coyote prey activities, APHIS-ADC control activities may be extended from the allotment boundaries experiencing livestock damage or allotments where preventative control has been requested and predation is likely to occur, onto a neighboring allotment or area of BLM land that is adjacent to private lands or BLM lands that are experiencing damage or damage is likely to occur. Preventative control may be undertaken in areas of historic coyote predation because such predation tends to reoccur in many areas. Permittees must request control efforts through APHIS-ADC personnel each calendar year. Such requests (ongoing damage control or preventative control) would be documented by APHIS-ADC personnel on APHIS Form 14 (Project Report). APHIS-ADC personnel would contact any affected adjacent permittee regarding these plans.

The control areas shown on map 1 were identified in 1993 and could be changed during the annual planning. This map should be used to determine the general locations of the restricted control areas. The exact locations should be determined while consulting with the particular BLM resource area office. The control area boundaries do not preclude the taking of a target animal who has been followed under hot pursuit from a control area into a restricted or no control area by APHIS-ADC personnel where no obvious conflicts occur.

Authorized Control Areas

Planned control areas refer to the BLM-administered public lands where the full range of control methods may be employed season long, provided APHIS-ADC has on file a current request for control or where there is a verified historical record of recurring coyote predation in a particular area. A current request is one

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made within 30 days prior to the undertaking of control activities. This requirement would help assure that ADC activities are aimed at offending local populations, rather than the species as a whole. When coyotes are moving into planned control areas from adjacent "no planned control" areas, predator control in the "no planned control" areas may be ap-proved on a case-by-case basis by the authorized officer. This situation is usually a problem only with pastured sheep rather than range-herded sheep that move regularly.

Posting Control Areas. Where traps are in use, APHIS would post warning signs to alert the public.

Checking of Control Devices. Traps, snares, and other devices would be checked in accordance with label requirements, APHIS policy, and federal and state laws.

Modification of Control Areas. The BLM authorized officer may, at any time, deny any ADC activities on the public lands because of multiple-use conflicts or public safety reasons. The authorized officer may also modify areas where control is permitted as to the degree and type of control. These changes would be made after consultation with the State Director of APHIS-ADC.

Special Considerations and Restrictions

Human Safety Zones

No control would be allowed:

within 1 mile of any community, city, town, subdivision, or other area of concentrated human occupation;

within 1 mile of any residence unless all affected residents approve control activities or devices being used at a closer distance;

within ¼ mile of any federal or state highway or BLM or county road; and,

within 1 mile of designated historic or recreational sites, recreational waters, trails, parks, rest areas, or similar public use areas. Aerial gunning would be considered on a case-by-case basis along the Oregon Trail, except in those areas with interpretive sites.

No control would be allowed in the Poison Spider Off-road Vehicle Area.

Limited Control Areas

In limited control areas, predator control activities would be subject to certain restrictions or to certain seasons. Effort would be made to avoid repetitive disturbance of wintering big game herds when they are encountered. Caution would be exercised near areas where wintering bald eagles are roosting or feeding on carrion. To avoid disturbing wintering big game and bald eagles, APHIS is required to coordinate with the BLM and Wyoming Game and Fish Department prior to aerial gunning. Control of black bear or mountain lion (trophy game animals) would be done only at the request and approval of the Wyoming Game and Fish Department.

No steel leg-hold traps or snares are authorized in Goshen, Niobrara and Platte counties to protect the Swift Fox, a Federal Category 2 Candidate Species.

Bird Hunting Areas/Dog Protection. To protect hunting dogs, no steel traps, or snares would be set or left in place in grouse, chukar, or pheasant range during the open hunting seasons beginning about September 1 and ending about November 30 as shown on map 1. No steel traps, or snares would be set within ¼ mile of open waters used by waterfowl hunters during the entire hunting season (from about October 1 through December 31 and January during goose season).

Dog Training Areas. These areas, as shown on map 1, have been identified as areas used to train dogs for upland game bird hunting and small game hunting. Control devices (traps, snares) and aerial gunning would not be used in these areas at any time. Calling, denning, and shooting would be allowed provided no individuals and their dogs are in the area(s).

Bald Eagle Wintering Concentration Areas. Aerial hunting would not be conducted between November 1 and March 31 in the areas shown on map 1. In the Jackson Canyon ACEC, no control is allowed without prior authorization from the BLM.

Raptor Nesting Areas. In raptor concentration areas, ADC activities during the nesting season (March 5 to July 15) would be approved by the authorized officer on a case-by-case basis only based on a field inspection of the area.

Crucial Big Game Habitat. Aerial hunting would be limited in crucial big game winter range and on calving and lambing areas for elk and big horn sheep as shown on map 1. The limitation on aerial hunting means when big game animals are present in these areas, and when it is highly likely that undue stress may occur from ADC activity. No aerial hunting would be conducted within ¼ mile of these ranges unless approved by the district manager or the Wyoming Game and Fish Department.

APHIS-ADC would assure that aerial gunning, as a control method, would not adversely affect or harass big game animals on their winter or crucial winter ranges.

Wilderness Areas and Wilderness Study Areas (WSAs). There are no designated wilderness areas in the Casper District. The three WSAs, Gardner Mountain and North Fork of the Powder River in Johnson County, and Fortification Creek in Johnson and Campbell counties, have been recommended as unsuitable for wilderness designation. Management actions occurring on WSAs are directed by specific policies outlined in BLM Manual H-8550-1, "Interim Management Policy and Guidelines for Lands Under Wilderness Review." The manual accommodates ADC activities by the following policy statement:

> *Animal damage control activities directed at individual offending animals may be permitted, as long as this will not jeopardize the continued presence of any species in the area. Shooting of animals from aircraft may be allowed, only where specifically authorized by provisions of state law and upon the approval of the BLM authorizing officer.*

Since most ADC techniques require the use of motorized vehicles (such as ground shooting and trapping), impacts to WSAs are minimized by the following policy statement, also found in BLM Manual H-8550-1:

> *Recreational use of mechanical transport, including all motorized devices, as well as trail and mountain bikes, may only be allowed on existing ways and trails and within "open" areas that were designated prior to the passage of FLPMA (October 21, 1976) [Federal Land Policy and Management Act of 1976]. If impacts of ORVs threaten to impair the area's suitability, the BLM may limit or close the affected lands to the types of ORVs causing the problems.*

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Black-footed Ferret Reintroduction Area

No prairie dog control would be allowed in any black-footed ferret reintroduction area. Two specific measures would be used to avoid capture or injury to ferrets from traps or snares:

> All snares would be equipped with stop devices two inches in diameter to preclude the capture of black-footed ferrets.
>
> All traps would be equipped with pan tension devices to preclude the capture of ferrets.

Rodent Control

Rodent control would be conducted only at the request and approval of the BLM authorized officer. The umbrella memorandum of understanding between BLM and APHIS-ADC, plus BLM's ADC manual, outlines each agency's responsibilities for rodent control.

The following guidelines apply to rodent control.

> There must be documented resource damage or human health or safety concern.
>
> A black-footed ferret survey, if necessary, must be done in accordance with U.S. Fish and Wildlife Service (FWS) guidelines.
>
> BLM would conduct the survey on BLM-administered public lands; APHIS-ADC or the private landowner would be responsible for acceptable surveys on private lands.
>
> A biological assessment must be prepared by BLM with concurrence of the FWS.
>
> A site-specific environmental assessment must be prepared by the BLM.
>
> Control work, if approved, must be supervised by APHIS-ADC.
>
> Funding will be provided by the BLM if BLM requests control to meet multiple use objectives identified in a land use plan.
>
> Funding will be provided by the affected parties in coordination with APHIS-ADC if the only reason for control is in order to be effective on private or state lands.
>
> All contact with private landowners must be done by APHIS-ADC. Any agreements are between APHIS-ADC and the private landowner and pertain only to private land.

Emergency Control

In an emergency situation such as an outbreak of bubonic plague in a prairie dog town or a local rabies epidemic in a carnivore population in areas of "no planned control" or restricted control, APHIS may request an exception but must request and receive approval from the authorized officer prior to beginning control operations. In an emergency situation involving immediate threats to public health or safety, APHIS may respond without prior approval, but must notify the authorized officer the same day control is initiated and when it is completed. Documentation of emergency response activities would be completed in the same manner as normal control activities. Once the emergency situation is over, the area shall revert to its prior control status.

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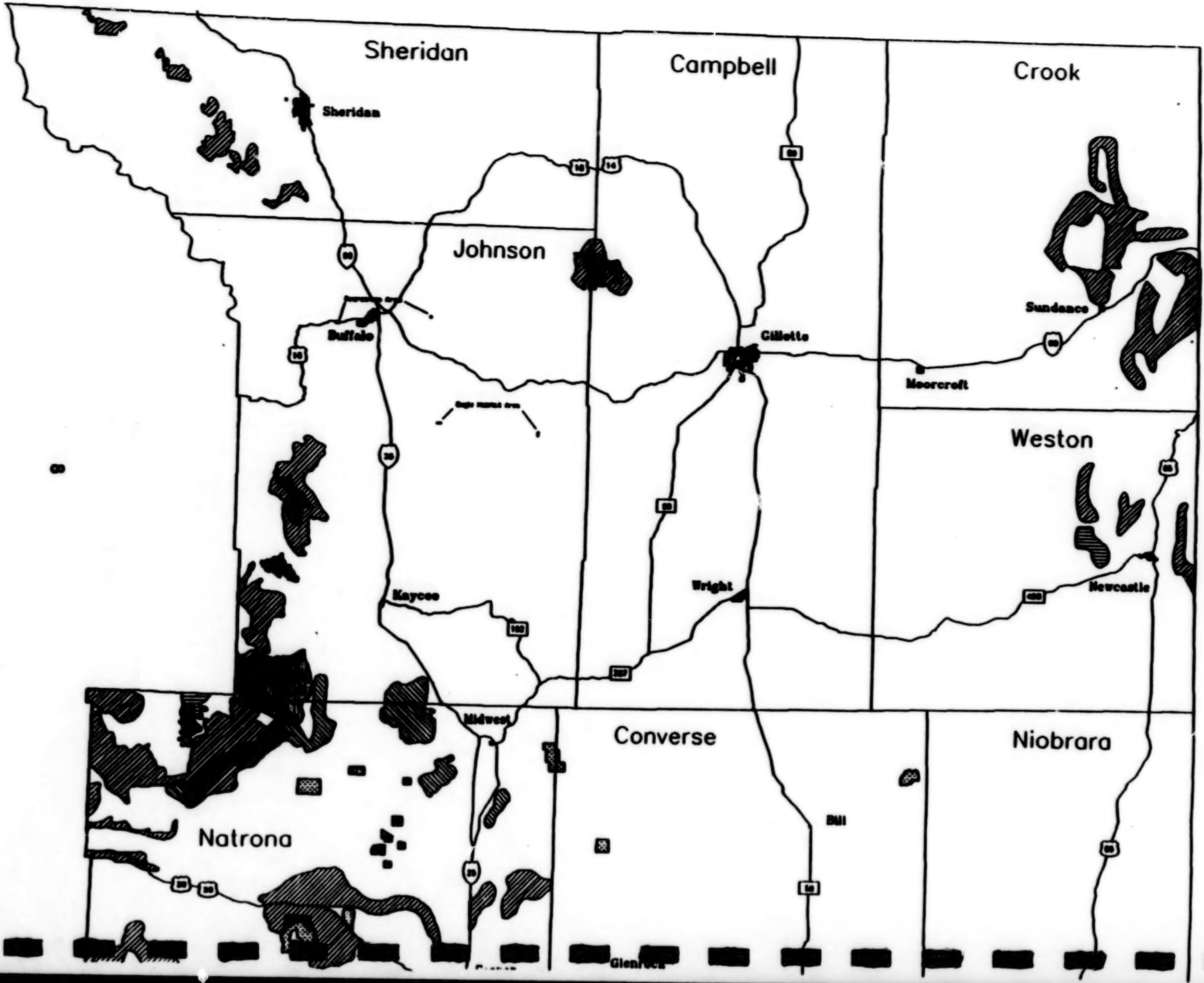
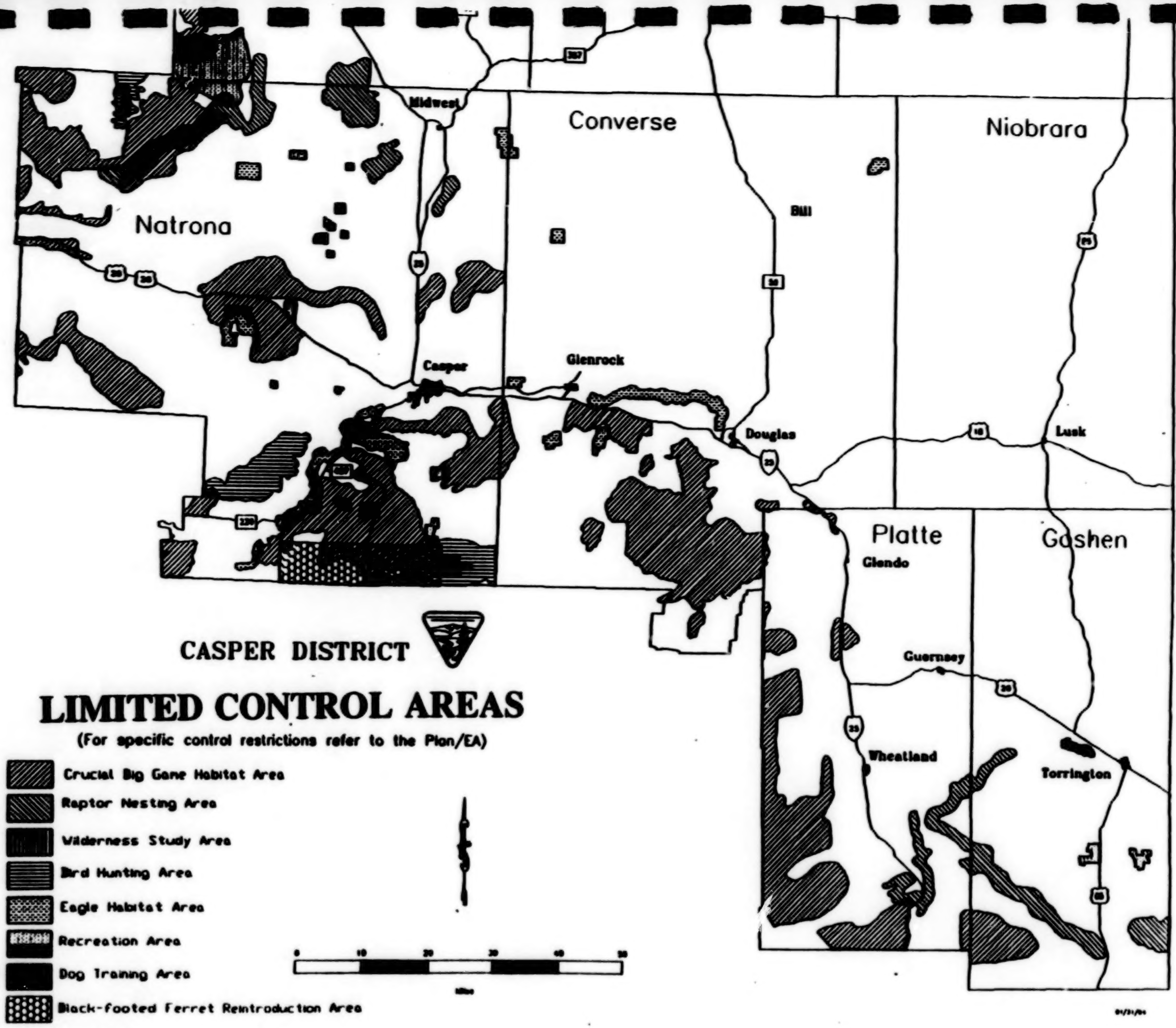


MAP 1: LIMITED CONTROL AREAS



MAP 2: LIMITED CONTROL AREAS CONT.

Emergency animal damage control in WSAs, ACECs, and public safety zones must be authorized in advance by the BLM authorized officer on a case-by-case basis. In areas other than WSAs, ACECs, and established safety zones, the following procedures would be used for emergency actions.

Requesting Control. Livestock operators would request control from the ADC program.

Problem Evaluation. APHIS-ADC officials evaluate the losses or requests and determine if emergency control measures are warranted.

Submissions to BLM Authorized Officer. The APHIS-ADC District Supervisor would contact the BLM authorized officer. The proposed ADC work must be described with the following information:

> Permittee needing assistance, reason for work (losses or preventative request), specific location, duration of the operation, and type of equipment or methods to be employed. The BLM authorized officer would coordinate the control request.

Authorization. Upon evaluation of the ADC request, the BLM authorized officer would notify the APHIS-ADC, APHIS-ADC District Supervisor, if authorization for control is granted and which, if any, restrictions are in effect. Control operations may be initiated upon this notification.

ENVIRONMENTAL ASSESSMENT

ANIMAL DAMAGE CONTROL ON PUBLIC LANDS ADMINISTERED BY THE U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT CASPER DISTRICT

EA No. WY-062-4-027
April 1994

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CHAPTER I. PURPOSE OF, AND NEED FOR THE PROPOSED ACTION

Introduction

The overall goal of the Animal and Plant Health Inspection Service-Animal Damage Control (APHIS-ADC) program is to minimize predatory animal impacts on livestock and the livestock industry while complying with strict measures to ensure public safety as well as protection of domestic animals, non-target species, and threatened and endangered species. The APHIS-ADC proposed Predatory Animal Damage Control Plan specifies where, when, and under what restrictions predator control operations would be carried out. The proposed Predatory Animal Damage Control Plan includes consideration for the protection of wildlife resources, range resources, agriculture, and human health and safety. Where possible, this is done through an integrated approach using both lethal and non-lethal control techniques.

The Casper District covers much of northeastern Wyoming, including Sheridan, Johnson, and Campbell counties in the Buffalo Resource Area; Crook, Weston, and Niobrara counties in the Newcastle Resource Area; and, Natrona, Converse, Platte, and Goshen counties in the Platte River Resource Area. The Casper District covers approximately 21,000,000 acres, of which approximately 2,290,000 surface acres are administered by the BLM. This represents 10.9 percent of the total surface area within the above 10 counties.

The Bureau of Land Management (BLM) has the responsibility for the management of lands under its jurisdiction, including a determination as to whether predator control practices are compatible with other multiple-use objectives. The BLM is responsible for evaluating the proposed Predatory Animal Damage Control Plan submitted by APHIS-ADC. It is BLM policy (BLM Manual 6830), through this evaluation, to ensure that predator control is carried out in a systematic manner which responds to resource protection, human health, and livestock protection needs while protecting public safety, domestic animals, and nontarget wildlife; and to ensure that predator control on the public lands is conducted in a manner consistent with current laws, policies and interagency procedures. The BLM evaluation is accomplished through the environmental analysis process and includes evaluating the need for predator control (i.e., livestock loss and economic impact to the livestock producers), the potential for conflicts with human safety and other resource uses resulting in the identification of areas within the Casper District where control should or should not occur (e.g., human safety zones, endangered and threatened species, special management areas, etc.), the control methods that should or should not be allowed in consideration of human and domestic and nontarget animal health and safety, and analyzing cumulative environmental consequences of implementing the Predatory Animal Damage Control Plan.

Wild animals are a valuable resource and an important part of the environment within the Casper District in Northeast Wyoming. They contribute to our enjoyment of outdoor recreational activities such as camping, hiking, photography, and hunting. The knowledge that abundant wildlife exists is important for many people. In some instances, however, this abundance has led to conflicts between human and wildlife interests. The coyote, for example, symbolizes the wild west for many people. However, coyotes can inflict heavy economic damage to producers of domestic sheep and, at times, to producers of cattle.

The USDA, Wyoming Agricultural Statistics Service shows Wyoming to be the third largest producer of sheep in the nation and reports an average of 407,000 sheep and 675,000 cattle on Northeast Wyoming farms and ranches in 1993.

Predatory animal control on public lands within the Casper District has continued since the establishment of the Taylor Grazing Act (1934) and the BLM (1946). As a result of domestic livestock losses due to coyote and fox predation, livestock permittees annually request predator control on public lands, including, most recently, the use of the M-44 devices.

PRESENT PREDATOR CONTROL ACTIVITIES ON PUBLIC LANDS

In March of 1993, the Humane Society of the United States appealed to the Interior Board of Land Appeals alleging the BLM was allowing APHIS-ADC to conduct animal damage control on public lands without first having complied with the requirements imposed by the National Environmental Policy Act. The Humane Society's appeal would require the BLM to prohibit APHIS-ADC from conducting any predator control activities on public lands until the Interior Board of Land Appeals issued a decision on the merits of their appeal.

In April 1993 the BLM Director directed the BLM not to approve APHIS-ADC plans unless current environmental assessments were completed. However, emergency control is allowed on public lands within the State of Wyoming for predator-caused livestock kills. Control is limited to the taking of the offending animals within 3 miles of the damage location, and those operations will cease within 5 days after losses stop. The use of M-44's is not considered an emergency method of control.

BLM POLICY AND AGREEMENTS

The *Animal Damage Control Act of March 2, 1931* (46 Stat. 1468; U.S.C. 426-426b), as amended, mandates the management of wild vertebrates causing damage. APHIS-ADC, through the Secretary of Agriculture, has been given authority by the Congress of the United States to carry out animal damage control activities. The BLM and APHIS-ADC, in a national MOU for Animal Damage Control (September 1987) and in a Supplemental MOU for Animal Damage Control in the State of Wyoming (June 1989) have agreed that predator control activities may be carried out on BLM-administered lands by APHIS-ADC in accordance with the operational principles agreed to.

Predator control activities on public lands are subject to the *Fish and Wildlife Act of 1956*, as amended by Public Laws 92-159 and 92-502. This law restricts shooting or harassing of wildlife from any aircraft. Airborne hunting regulations (50 CFR 19) have been established to provide rules relative to the prohibition against shooting or harassing of wildlife from any aircraft, the requirements for the contents and filing of annual reports by the States regarding permits issued for such shooting or harassing, and regulations necessary for effective enforcement of the *Fish and Wildlife Act of 1956*.

The State of Wyoming has enacted law governing predator control activities within the State which is administered by the Wyoming Department of Agriculture. The *Wyoming Predatory Animal Control Law* (Wyoming Statute 1977, Sections 11-6-101 through 108, and 11-6-201 through 210) specify requirements for, among other things, landowner permission, liability, cooperative and coordinated plans for rodent and predator control, issuance of aerial hunting permits, establishment of county predatory animal boards, livestock boards' collection and disbursements of fees for predatory animal control, and predatory animal control fees on all sheep and cattle inspected within each predatory animal district.

The Wyoming Legislature has made the determination that the taking of wildlife species to protect life or property is appropriate under certain circumstances. It is not the purpose of the environmental analysis to abridge State's Rights or to permit predator control activities outside the bounds set by the State of Wyoming.

The County Predatory Animal Boards (PAB) have the primary authority and responsibility for controlling predation in their respective counties. The duties of these PABs include supervision over and implementation of the best methods of controlling predatory animals, which could paying bounties, conducting their own individual county programs, contracting with APHIS-ADC, or a combination of all three. The PABs also monitor predator problems and coordinate cooperative agreements (contract) for control with APHIS-ADC, as well as raise and disperse needed funding. The APHIS-ADC contracts with the PABs for controlling predation within the respective county. The contracts between the respective PAB and APHIS-ADC are not mutually exclusive, as each party can enter into additional agreements to fulfill their responsibilities. Within the Casper District, APHIS-ADC has contracts with Crook, Goshen, Niobrara, Platte, Sheridan, and Weston Counties.

Pursuant to the authority vested in the Department of Agriculture by virtue of the *Wyoming Predatory Animal Control Law*, the *Wyoming Predatory Animal Control Regulations* implement procedures for the issuance, denial and revocation of permits for aerial hunting; implement provisions of the Fish and Wildlife Act by Public Laws 92-159 and 92-502; establish effective time periods for permits; establish a method for permit applications to secure approvals from local predator control districts; identify permit areas; and provide exemptions as provided for in the *Federal Airborne Hunting Act*.

Purpose and Need

APHIS-ADC has requested authorization to use, in addition to the conventional methods of predator control (i.e., trapping, calling and shooting, denning, and aerial gunning), the toxicant sodium cyanide with the M-44 application device as an additional method to control coyote predation on domestic livestock. It is being requested by APHIS-ADC as an additional tool to enhance the efficiency and effectiveness of control. The M-44 will not be authorized by BLM for use on public lands within the Casper District in this decision. The APHIS-ADC request follows the direction provided for in the national Memorandum of Understanding (MOU) between BLM and APHIS for Animal Damage Control (September 1987), the Supplemental Memorandum of Understanding between BLM and APHIS for Animal Damage Control in the State of Wyoming (June 1989), each of which establishes operational principles for predator control on BLM-administered lands, and the Environmental Protection Agency's M-44 Cyanide Capsules Use Restrictions.

The APHIS-ADC animal damage control program policy is to provide assistance in resolving conflicts between wildlife and man in order to alleviate economic agricultural damage, minimize economic losses, and protect human health and safety. Integrated control method approaches used or recommended include mechanical control, habitat manipulation, chemical, and cultural methods which take into consideration the impact on other wildlife and such factors as economic, social, environmental, political, and administrative considerations.

The objective of the proposed action (APHIS' proposed ADC plan) is to allow APHIS-ADC to conduct a mammalian damage control program on those BLM-administered public lands in those counties which they have cooperative agreements with the respective county predator animal boards (PABs). This plan outlines where, when, and in what manner APHIS proposes to carry out ADC activities on public lands within the Casper District.

The ADC plan has been prepared using the final ADC programmatic biological opinion dated July 28, 1992 the BLM's Manual 6830 ("Animal Damage Control Outline") dated August 4, 1988, the Interim Management Policy and Guidelines for Lands Under Wilderness Review - Update Document H-8550-1 dated November 10, 1987, tiered from the Memorandum of Understanding (MOU) between the BLM and APHIS-ADC in Wyoming dated May 12, 1989, which is tiered from the National MOU between the BLM and APHIS-ADC dated September 16, 1987, and the APHIS-ADC Animal Damage Control Policy Manual dated October 6, 1989.

The purpose of this environmental assessment is to determine the impacts of implementing the animal damage control program administered by APHIS-ADC on lands administered by the BLM in the Casper District. In response to the impacts identified during the analysis the BLM may develop alternatives which will restrict the timing, location, or type of control allowed by APHIS-ADC.

The animal damage control plan submitted by APHIS-ADC pertains only to those public lands administered

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by the BLM. This represents 2 percent of the surface when compared with the total surface area within the district, and 4.7 percent when compared to the total surface of only those counties with agreements. APHIS-ADC had an agreement with the Natrona County PAB until February 1994 at which time the board cancelled their agreement. In addition, several alternatives assess the need on ADC in the other 4 counties in the district (Campbell, Converse, Johnson and Natrona). This would be in response to the potential agreements with the PABs or individual operators.

In addition to livestock permittees, other agencies (local, state, and federal) utilize ADC to protect wildlife, including those that are threatened and endangered and human populations. Examples within the Casper District include the Wyoming Game and Fish Department (WGFD) protection of the black-footed ferret at reintroduction sites, and protection of mule deer and pronghorn antelope from depredation in many areas of the state. The Center for Disease Control responds to animal-borne diseases outbreaks especially rabies in skunks, and plague outbreaks, and the Federal Aviation Administration for bird control near airports.

The estimated predator loss data for Wyoming statewide studies show that there has been a dramatic increase in Wyoming in the number of livestock predator losses over the last few years. Losses were higher in 1992 than at any time in recent years, with a 52.5 percent increase between 1991 and 1992, and over a 300 percent increase between 1989 and 1992. Discussions with the livestock industry suggest that predator numbers are at an unprecedented high level and losses in 1993 will likely exceed the 1992 levels.

Research has shown that annual sheep losses of 2 to 6 percent are normal with predator control in place. Sheep producers accept this as an inherent part of ranching. If coyotes and other predatory animals are not controled, "...losses may jump as high as 18 to 30 percent" (Dr. Fred Knowlton, Research Associate Professor, Utah State University; and Project Leader, USDA - APHIS Animal Damage Control Predator Ecology Project).

According to state statute, all wildlife is the responsibility of the State of Wyoming. It is the purpose and policy of the State to provide an adequate and flexible system for control, propagation, management, protection, and regulation of all resident Wyoming wildlife. It is the responsibility of the Wyoming Game and Fish Commission (WGFC) to carry out this management for all species except predators. The State Department of Agriculture regulates predator management. The BLM has no authority to regulate the number of animals managed for, or in the case of predators, the number killed as part of predator control actions unless public safety or other BLM responsibility under the Federal Land Policy and Management Act (FLPMA) or the National Environmental Policy Act (NEPA) are implicated.

Scoping

Formal consultation with the public began when a press release was issued on November 19, 1993. This release announced the preparation of the EA and public scoping meetings in Casper on November 30, 1993, Buffalo on December 1, 1993, and Newcastle on December 2, 1993. A total of 45 people attended these meetings. The main point of interest or discussion in all three meetings revolved around the definite need for predator control and the role APHIS serves as opposed to private and commercial control on federal lands. One person in Casper discussed his concerns against the use of M-44s, and one letter expressing concerns against the current animal damage control program has been received.

Conformance With Land Use Plans

Planning decisions affecting ADC activities in the Casper District are contained in the Platte River Resource Area Resource Management Plan (RMP), the Buffalo Resource Area RMP, and the Newcastle Resource Area Management Framework Plan (MFP). The proposed ADC plan is in conformance with, and does not deviate from, the intent of each of these planning documents.

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CHAPTER II. ALTERNATIVES, INCLUDING THE APHIS-ADC PROPOSED ACTION

Introduction

This environmental assessment documents the environmental impact of the APHIS-ADC ongoing program of animal damage control. The environmental assessment also analyzes alternatives, including the no action alternative, for the protection of domestic livestock within the BLM Casper District. Development of the Proposed Action and Alternatives was based on the issues and concerns identified in the comments received from the public, organizations, livestock industry, and county, state and federal agencies. The decision to be made, based on the analysis documented in this environmental assessment, will be where, when and what types of predator control actions by APHIS-ADC can be allowed on public lands within the BLM Casper District without adversely affecting other uses of these public lands. The proposed Predatory Animal Damage Control Plan, along with associated maps would cover a five-year period from the date of approval.

The proposed action was developed by the APHIS-ADC in consultation with the BLM Casper District. It would comply with the *Animal Damage Control Act of March 2, 1931, as amended,* in that it provides "...the best methods or eradication, suppression, or bringing under control on...public domain...coyotes, bobcats, and other animals injurious to agriculture,...animal husbandry, wild game animals, fur-bearing animals and birds, and for the protection of stock and other domestic animals through the suppression of...predatory or other wild animals...." Under the Proposed Action, APHIS-ADC would provide a predator control program within which both agencies could legally operate under the law and conform with interagency agreement.

The alternatives, except No Action, include a combination of methods and strategies for implementing a predator control program. The alternatives, as does the proposed action, would implement a systematic predator control program on public lands which responds to resource protection, human health, and livestock protection needs while emphasizing public safety, the protection of domestic animals, and nontarget wildlife by using all the non-lethal and conventional lethal methods of control. Only the use of chemical and nonchemical lethal control methods vary among the alternatives or are not included.

Four alternatives were developed:

- APHIS-ADC Proposed Action
- Alternative 1: Animal Damage Control With The Inclusion of the Four Counties Not Under Cooperative Agreements With APHIS-ADC
- Alternative 2: Animal Damage Control In 10 Counties With No M-44s and Limited Steel Trap and Snare Use (Preferred Alternative)
- Alternative 3: No Action (No Animal Damage Control)
- Alternative 4: Continuation of BLM Emergency Control Process

This section describes each alternative. The APHIS-ADC Proposed Action, describes in detail the animal damage control plan submitted by APHIS and only pertains to those counties in which APHIS-ADC has cooperative agreements. The other alternatives describe additional information to the APHIS-ADC Proposed Action or how they are different from it. Alternative 1, includes the same control techniques as the APHIS-ADC Proposed Action with some additional conditions including the potential for APHIS-ADC to participate in control activities in the rest of the counties in the Casper District if they develop agreements with either the county PABs or individual operators. Alternative 2 would include the same control techniques as in the APHIS-ADC Proposed Action and Alternative 1 with the exception of no use of M-44s on the public lands and no steel leg-hold traps or snares on the public lands in Goshen, Niobrara, and Platte counties.

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Alternative 2 is BLM's preferred alternative. Alternative 3 is the "No Action" Alternative which means that BLM would not authorize APHIS-ADC to perform control activities on public lands and Alternative 4 is the continuation of the current emergency control process.

Description of ADC Techniques

Nonlethal Control

APHIS-ADC encourages and implements a cooperative integrated predator management approach whenever physically and economically possible. Frequently, some form of nonlethal predator control is used by the livestock producer before implementing lethal control, and may include one or more of the following nonlethal methods.

Livestock-guarding animals are used by livestock operators, are frequently recommended by APHIS-ADC, and may include guard dogs, llamas, or donkeys.

Sheepherders (shepherds) are used by livestock producers to protect their livestock.

Fencing is used where appropriate and is recommended often. It may consist of conventional or electrical fence.

Strobe lights and sirens are battery powered portable units which are available through the ADC program and frequently reduce predation in specific short-term situations.

Zon guns (propane cannons) are also effectively used on a temporary basis in reducing predation and are available through the ADC program.

Lethal Control

Lethal control is used when nonlethal control implemented by livestock operators has failed to prevent losses or when the potential risk of loss is high. Direct lethal control is aimed at individual animals responsible for the loss and may also be used on populations of a species within a certain distance of the loss. APHIS-ADC takes strict measures to ensure public safety, and protection of threatened or endangered wildlife, as well as protection of domestic livestock. Where authorized by BLM, use of chemical toxicants for animal damage control would conform to all federal, state, and local regulations. Only sodium cyanide and zinc phosphide for rodent control would be used on public land. The following are lethal control methods.

Aerial Shooting. Aerial shooting is widely used as a predator control method and is ideally suited in areas where vegetation and terrain do not preclude its use. The technique is not always selective for specific problem individuals but is species-specific and local population-specific since visual identification is a prerequisite for shooting. Fixed-wing aircraft are useful mainly over flat or gently rolling terrain. Because of their maneuverability, helicopters have greater utility over brushy ground, timbered areas, or rough terrain where animals are most difficult to spot. Good visibility is required for effective and safe operations, necessitating relatively clear and stable weather conditions. High temperatures, which reduce air density and safety of low-level flight, hinder aerial shooting. In most areas aerial shooting is most effective in winter with snow cover because the summer vegetation reduces visibility of the coyote. This method is usually very costly per coyote controlled. As part of the process to get a permit for aerial hunting, the applicant must obtain authorization from the federal land management agency. The process for this authorization is outlined in BLM Information Bulletin WY-94-080, "Clarification of Policy on Aerial Gunning for Predator Control" (appendix A).

The use of rotor-wing and fixed-wing aircraft would be authorized in all planned control areas. Aerial shooting by APHIS-ADC is closely supervised to ensure that all applicable policies, regulations, and laws are followed. APHIS-ADC would inform the BLM when and where aerial hunting would be undertaken. APHIS-ADC personnel in "hot pursuit" of a target animal by aircraft may pursue it into a "no planned control" or limited control area unless an obvious conflict would occur, such as approaching a dwelling or flying over a wintering elk or mule deer herd.

Ground Shooting. Some predators are shot from the ground, with or without the aid of predator calls. Ground shooting can be selective for the target species, but certalty that the animal being called is the offending animal is often next to impossible. Ground shooting can be directed at specific problem animals or used where other tools are not applicable because of hazards or weather conditions. Additionally, a hand-held call that mimics an injured rabbit, other prey species, or coyote pups, may be used to lure predators within gun range. Sirens on trucks are also used to elicit coyote howls for location. Visual identification of the target species before shooting assures that nontarget animals are not taken. This method may be relatively expensive because of the staff hours often required.

Trapping. The offset steel leg-hold trap is the most versatile and widely used tool for predator damage control. Traps are considered to be a non-lethal mechanical capture device, since disposition of the trapped animal is left to the discretion of the individual using them. In most cases, however, the trapped animal is killed. Scent sets are those which rely on a small amount of olfactory attractants placed nearby to entice the animal into the trap. Scent formulas vary but their objective is to attract target animals. The selectivity of steel leg-hold traps for targeting specific predator species is a function of effective and proper trapping techniques.

The use of all traps and trapping devices by APHIS-ADC employees shall be in compliance with federal, state, and local laws, rules, and regulations. Traps are set 30 feet or more from an animal carcass.

Live Trapping. This technique is used primarily in controlling rabid skunks during isolated outbreaks of rabies. It is considered a technique used to supplement the use of leg-hold traps. This method incorporates the use of live traps to live capture target species where livestock and wildlife depredation occurs and is very selective in application. This method is often used in residential areas where other methods would be inappropriate and cause a risk to human safety.

Snares. Two types of snares are used: the neck snare and the leg snare. The neck snare is composed of a flexible wire cable that is placed through holes in fences and other small openings such as dens. They are used primarily in areas of extensive woven or net wire fencing. The snare is fashioned into a loop that is placed to encircle the animal's neck as it passes through or under the fence. The end of the snare cable is anchored to a solid object. A simple locking device which allows only tightening of the loop, causes strangulation of the snared animal.

Leg snares are constructed of flexible wire cable with a locking device which holds the loop closed on the animal's leg. The cable size is commensurate with the size of the target animal. Leg snares are used primarily in "cubby" sets or cover "blind" sets with an attractant bait placed a short distance from the snare.

The use of snares by APHIS-ADC employees shall be in compliance with federal, state, and local laws, rules, and regulations.

Denning. In the spring of the year female coyotes give birth to young generally in an earthen burrow in the ground. Denning is the location and removal of the young from their den by excavating the den by hand, injecting smoke into the den to drive the animals out inserting carbon monoxide cartridges to suffocate the animals, or occasionally having a small dog retrieve them. The young are then destroyed, usually with a small caliber firearm. Denning is highly selective for the target species. It is also effective in reducing or eliminating predation in specific areas because the need to provide food for young is removed.

M-44s. The M-44 is a tubular-shaped, spring-activated device used to propel sodium cyanide into the mouth of the animal. When the device is driven into the ground, only the short head-section protrudes. The head portion is normally wrapped with a heavy cloth and is coated with various scents. An animal, attracted by the scent, grasps the protruding head of the device with its teeth and pulls, activating the spring plunger, which propels the cyanide into its mouth. Coma and death follow within seconds. The M-44 is intended to be selective for canids (members of the dog family) primarily because of the attractant (rotten meats) and the requirement that the device be triggered by a tug with the teeth.

M-44s would be used only in accordance with current Environmental Protection Agency (EPA) regulations and restrictions (appendix B). M-44s shall be used on public lands only as authorized on a case-by-case basis by the authorized officer. Requests to the authorized officer for authorization to use M-44s on public land would originate with the APHIS-ADC State Supervisor or his representative. The State of Wyoming will not certify individual operators to place M-44s on federal land (appendix B). In each case, documentation of livestock losses, including evidence that such losses were caused by coyotes, is required. M-44s would only be requested as part of an integrated control effort on all land ownership in the control area.

In cases where BLM restrictions on M-44 use are more stringent than the EPA label restrictions, BLM restrictions would be adhered to (for example, distance from human habitation; also see the "No Planned Control" and "Limited Control" sections).

When BLM receives a request from APHIS-ADC to use M-44 devices on BLM-administered public lands, BLM would evaluate the season and location for multiple-use resource conflicts and, if necessary, make on-the-ground inspections with APHIS-ADC. APHIS-ADC would inform BLM of the location and area of M-44 use on private, state, and BLM-intermingled land so that BLM can deal with public concern.

Only APHIS-ADC employees would place M-44s on public lands.

Domestic Dogs. Using dogs in predator control is usually limited to resolving specific predator complaints. This method is also specific for the target species since visual identification of the target animal is made prior to shooting. Dogs trained for coyote denning are used either to locate dens, retrieve the pups, or to lure adults to be shot. Greyhound packs have also been used effectively to chase and kill coyotes. Guard dogs are used by livestock producers rather than APHIS-ADC personnel.

Other Techniques

Other control techniques which are described as humane control methods but, to our knowledge, have not advanced to the stage where they could be labeled as practical field tools are available. For example, there is research ongoing in immunocontraception (reproduction control) and sterility tests. Taste aversion methods have been used widely in Canada but have not been used in the United States to any extent. These techniques are presently unavailable for use. In addition, 1080 is not authorized for Federal APHIS-ADC activities.

The APHIS-ADC Proposed Action

Introduction

The APHIS-ADC plan specifies where, when, and under what restrictions animal damage control operations would be carried out as mutually agreed by the agencies. It applies only to those counties with which APHIS-ADC has agreements with the Predator Animal Boards (Crook, Goshen, Niobrara, Platte, Sheridan, and Weston counties). It does not include Campbell, Converse, Johnson, and Natrona counties. This ADC plan would be reviewed annually and a letter of authorization with amendments, if needed, would be prepared by the Casper BLM District Manager. For any amendments made, the appropriate level of NEPA documentation and analysis would be completed. That letter with any new NEPA documentation, together with this plan, would be a yearly plan of operation. This plan shall remain in effect for 5 years or until a new plan is adopted whichever occurs first. Examples of amendments which could occur include changes in category of control, methods of control, or target animals.

APHIS-ADCs ADC program in the Casper District compiles data received from individuals who request ADC assistance using the following forms: Project Report (ADC Form 14), Damage Control Request (USDI Form 10/71), Weekly Field Activity Report (ADC Form 15), Monthly Field Activity Report (ADC Form 16), and Monthly M-44 Report Summary (ADC Form 19B). This specific information provides documentation on verified losses, reported losses, techniques used, and wildlife species affected.

The coyote is the principal target species, and control operations would generally concentrate on this animal. The overall intent is to reduce animal depredations as quickly as possible by directing ADC activities toward individual coyotes or local populations where historical or ongoing losses have been verified, requested, or are likely to occur (based on local populations and abundance of natural prey species). Local populations may include several animals within their established home range and may extend for several miles.

ADC activities would take into consideration those actions listed below. The Limited Control Area map 1 and limited control categories were developed and based on the following criteria:

1. The effect of the proposed control program including potential conflicts on other authorized uses and resources on the land in question.

2. The need for, and objectives of, control measures based on agriculture production, protection of livestock, wildlife, and other resources, and watershed management.

3. Identification of target species, possible affected species, planned methods of control, and applicable restrictions.

4. Conformance to existing regulations, land management plans, established policies, planned uses of recreational areas, areas of human habitation, and other land management practices.

5. Authorization of research necessary to develop a data base for the registration or implementation of new control or preventative methods.

6. The need for ADC programs which can address public health and safety concerns, including disease outbreaks within the district.

7. The need for control measures to protect endangered species or to safeguard wildlife species affected by predation.

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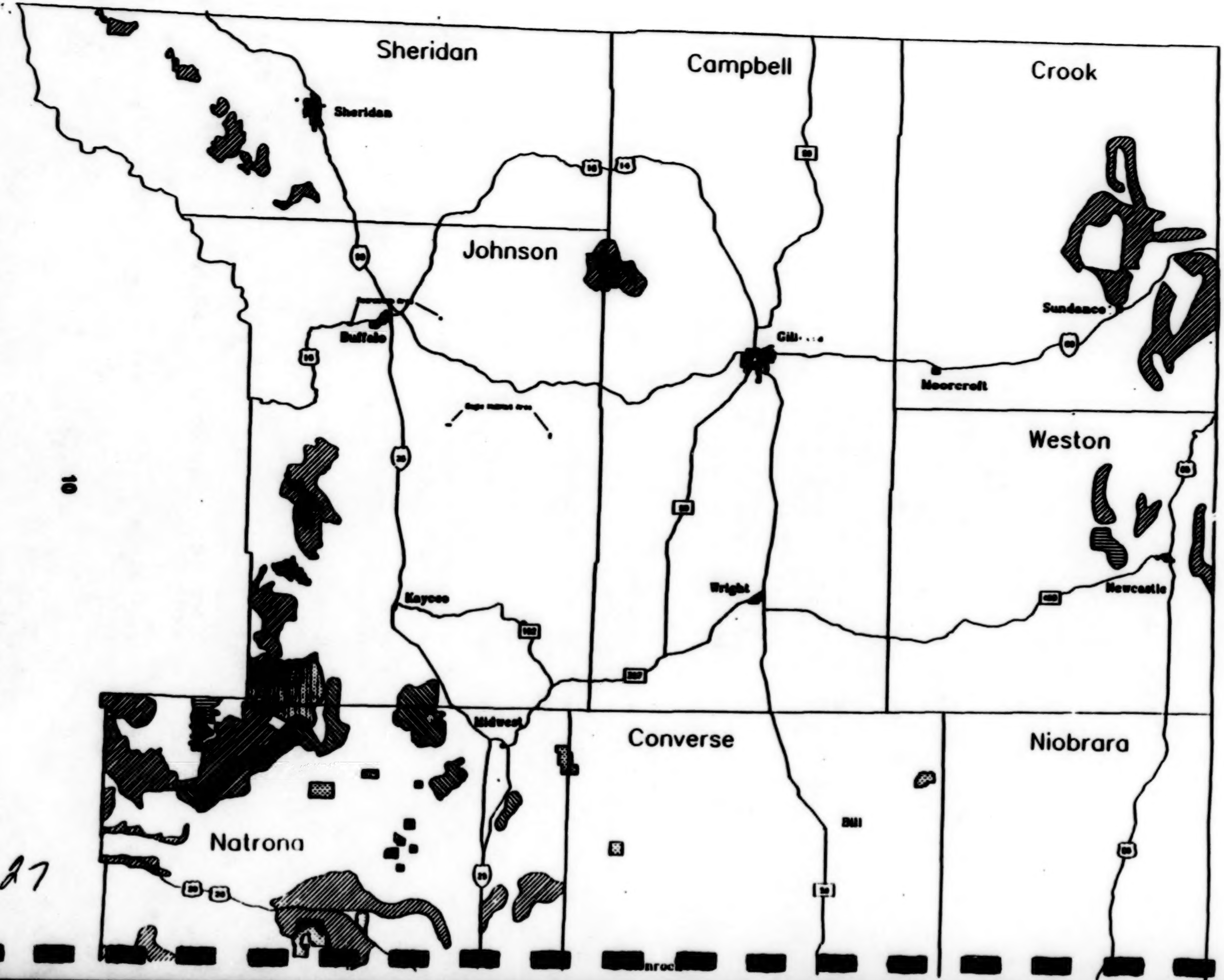
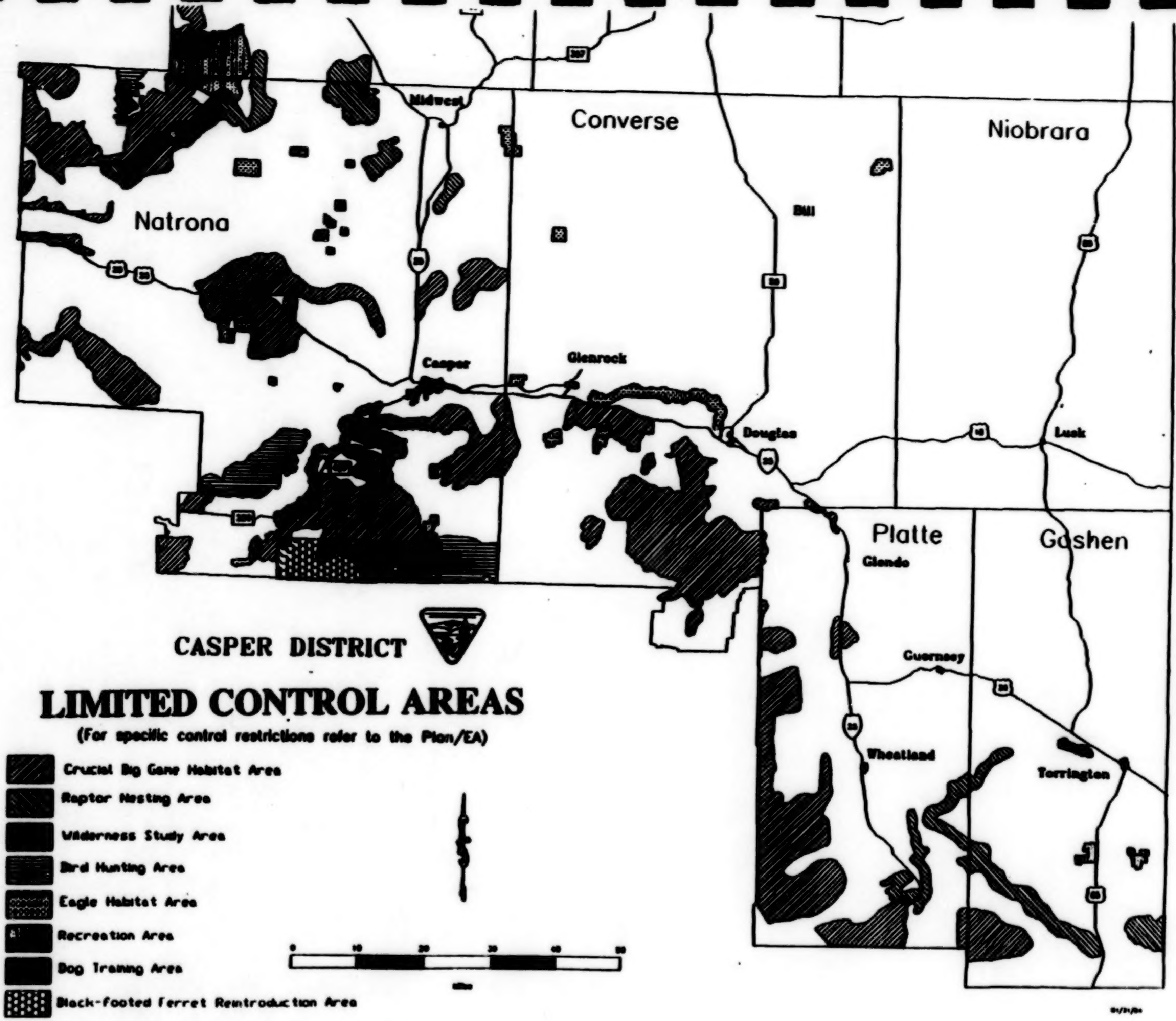


MAP 1: LIMITED CONTROL AREAS

MAP 2: LIMITED CONTROL AREAS CONT.



Planned ADC Activities

Following compilation of annual data, the proposed operations would be discussed and decisions would be made at the annual (more often, if needed) meeting between APHIS-ADC and BLM for needs and priorities for control. The methods used, control periods, and restrictions relate to specific areas which would be discussed and authorized each year.

Preventative predator damage control may be authorized when APHIS-ADC has made an evaluation and determined that livestock losses have occurred based on historic information. Control operations may be initiated before predator losses occur and before introducing livestock to a specific area with annual or documented predator losses. This would be done through annual preventative damage control requests made by permittees, when livestock are introduced into new areas, or if predators inhabit BLM-administered public lands that border private lands where predation is historical, ongoing, or may occur. Preventative control may be undertaken in areas of historic coyote predation because such predation tends to reoccur in many areas. Permittees must request control efforts through ADC personnel each calendar year. Such requests (ongoing damage control or preventative control) would be documented by ADC personnel on APHIS-ADC Form 14 (Project Report). APHIS-ADC personnel would contact any affected adjacent permittee regarding these plans.

The limited control areas shown on map 1 were identified in 1993 and could be changed during the annual planning meetings. This map should be used to determine the general locations of the restricted control areas. The exact locations should be determined while consulting with the particular BLM resource area office. The control area boundaries do not preclude the taking of a target animal who has been followed under hot pursuit from a control area into a restricted or no control area by ADC personnel where no obvious conflicts occur.

Planned Control Areas

Planned control areas refer to the BLM-administered public lands in the six counties contained within the APHIS-ADC plan where APHIS-ADC has agreements with the counties. The full range of control methods may be employed season long, provided APHIS-ADC has on file a current request for control or where there is a verified historical record of recurring coyote predation in a particular area. A current request is one made within 30 days prior to the undertaking of control activities. This requirement would help assure that ADC activities are aimed at offending local populations, rather than the species as a whole. When coyotes are moving into planned control areas from adjacent "no planned control" areas, predator control in the "no planned control" areas may be approved on a case-by-case basis by the authorized officer. This situation is usually a problem only with pastured sheep rather than range-herded sheep that move regularly.

Posting Control Areas. Where traps and M-44s are in use, APHIS-ADC would post warning signs to alert the public.

Checking of Control Devices. Traps, snares, and other devices would be checked in accordance with label requirements, APHIS-ADC policy, and federal and state laws.

Modification of Control Areas. The BLM authorized officer may, at any time, deny any ADC activities on the public lands because of multiple-use conflicts or public safety reasons. The authorized officer may also modify areas where control is permitted as to the degree and type of control. These changes would be made after consultation with the State Director of APHIS-ADC.

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Special Considerations and Restrictions

Human Safety Zones

No control would be allowed:

within 1 mile of any community, city, town, subdivision, or other area of concentrated human occupation;

within 1 mile of any residence unless all affected residents approve control activities or devices being used at a closer distance;

within ¼ mile of any federal or state highway or BLM or county road; and,

within 1 mile of designated historic or recreational sites, recreational waters, trails, parks, rest areas, or similar public use areas. Aerial gunning would be considered on a case-by-case basis along the Oregon Trail, except in those areas with interpretive sites.

Limited Control Areas

In limited control areas (Map 1), predator control activities would be subject to certain restrictions or to certain seasons. Effort would be made to avoid repetitive disturbance of wintering big game herds when they are encountered. Caution would be exercised near areas where wintering bald eagles are roosting or feeding on carrion. To avoid disturbing wintering big game and bald eagles, APHIS-ADC is required to coordinate with the BLM and Wyoming Game and Fish Department prior to aerial gunning. Control of black bear or mountain lion (trophy game animals) would be done only at the request and approval of the Wyoming Game and Fish Department.

Bird Hunting Areas/Dog Protection. To protect hunting dogs, no steel traps, snares, or M-44s would be set or left in place in grouse, chukar, or pheasant range during the open hunting seasons beginning about September 1 and ending about November 30 as shown on map 1. No steel traps, snares, or M-44s would be set within ¼ mile of open waters used by waterfowl hunters during the entire hunting season (from about October 1 through December 31 and January during goose season).

Dog Training Areas. These areas, as shown on map 1, have been identified as areas used to train dogs for game bird hunting and small game hunting. Control devices (traps, snares, M-44s) would not be used in these areas at any time. Calling, denning, shooting, and aerial gunning is allowed, provided no individuals and their dogs are in the area(s).

Bald Eagle Wintering Concentration Areas. Aerial hunting would not be conducted between November 1 and March 31 in the areas shown on map 1 when bald eagles are concentrated in the specific areas identified. In the Jackson Canyon Area of Critical Environmental Concern (ACEC), no control is allowed without specific prior authorization from the BLM.

Raptor Nesting Areas. In raptor concentration areas, ADC activities during the nesting season (March 5 to July 15) would be approved by the authorized officer on a case-by-case basis after a field inspection of the area.

Crucial Big Game Habitat. Aerial hunting would be limited in crucial big game winter range and on calving and lambing areas for elk and big horn sheep as shown on map 1. The limitation on aerial hunting means when big game animals are present in these areas, and when it is highly likely that undue

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stress may occur from ADC activity. No aerial hunting would be conducted within ¼ mile of these ranges unless approved by the district manager or the Wyoming Game and Fish Department.

APHIS-ADC would assure that aerial gunning, as a control method, would not adversely affect or harass big game animals on their crucial winter ranges.

Wilderness Areas and Wilderness Study Areas (WSAs).

There are no designated wilderness areas in the Casper District. The three WSAs, Gardener Mountain and North Fork of the Powder River in Johnson County, and Fortification Creek in Johnson and Campbell counties, have been recommended as unsuitable for wilderness designation. APHIS-ADC does not currently conduct ADC activities in Johnson and Campbell counties. Therefore, wilderness area and WSA considerations and ADC actions are not a concern in the proposed action.

Rodent Control

Rodent control would be conducted only at the request and approval of the BLM authorized officer. The umbrella memorandum of understanding between BLM and APHIS-ADC, plus BLM's ADC manual, outlines each agency's responsibilities for rodent control.

Emergency Control

In an emergency situation such as an outbreak of bubonic plague in a prairie dog town or a local rabies epidemic in a carnivore population in areas of no planned control or restricted control, APHIS-ADC may request an exception but must request and receive approval from the authorized officer prior to beginning control operations. In an emergency situation involving immediate threats to public health or safety, APHIS-ADC may respond without prior approval, but must notify the authorized officer the same day control is initiated and when it is completed. Documentation of emergency response activities would be completed in the same manner as normal control activities. Once the emergency situation is over, the area shall revert to its prior control status.

Emergency animal damage control in WSAs, ACECs, and public safety zones must be authorized in advance by the BLM authorized officer on a case-by-case basis. In areas other than WSAs, ACECs, and established safety zones, the following procedures would be used for emergency actions.

Requesting Control. Livestock operators would request control from the ADC program.

Problem Evaluation. APHIS-ADC officials evaluate the losses or requests and determine if emergency control measures are warranted.

Submissions to BLM Authorized Officer. The APHIS-ADC District Supervisor would contact the BLM authorized officer. The proposed ADC work must be described with the following information:

Permittee needing assistance, reason for work (losses or preventative request), specific location, duration of the operation, and type of equipment or methods to be employed. The BLM authorized officer would coordinate the control request.

Authorization. Upon evaluation of the ADC request, the BLM authorized officer would notify the APHIS-ADC, ADC District Supervisor, if authorization for control is granted and which, if any, restrictions are in effect. Control operations may be initiated upon this notification.

Alternative 1: Animal Damage Control With The Inclusion of the Four Counties Currently Not Under Cooperative Agreements With APHIS-ADC

Introduction

This alternative incorporates everything described in the Proposed Action with the following additions or changes.

In addition to those counties identified in the Proposed Action, APHIS-ADC would also be authorized to carry out ADC actions in Johnson, Campbell, Natrona and Converse counties within the parameters of this alternative when they have agreements with the predator animal boards or individual operators. Public interest has been expressed by operators within these counties to enter into agreements with APHIS-ADC for assistance with their ongoing predator control activities.

ADC Techniques

Same as the Proposed Action

Planned ADC Activities

Same as the Proposed Action

Planned Control Areas

Same as the Proposed Action

Special Considerations and Restrictions

Same as the Proposed Action

Human Safety Zones

In addition to those in the APHIS-ADC proposed action, no control would be allowed in the Poison Spider Off-road Vehicle Area, Northwest of Casper.

Limited Control Areas

Same as the APHIS-ADC Proposed Action with the following additions or changes:

Dog Training Areas. Aerial gunning is not allowed.

Bald Eagle Wintering Concentration Areas. Aerial hunting would not be conducted in the areas shown on map 1 between November 1 and March 31.

Wilderness Areas and WSAs. There are no designated wilderness areas in the Casper District. The three WSAs, Gardner Mountain and North Fork of the Powder River in Johnson County, and Fortification Creek in Johnson and Campbell counties, have been recommended as unsuitable for wilderness designation. Management actions occurring on WSAs are directed by specific policies outlined in BLM Manual H-8550-1, "Interim Management Policy and Guidelines for Lands Under Wilderness Review." The manual accommodates ADC activities by the following policy statement:

Animal damage control activities directed at individual offending animals may be permitted, as long as this will not jeopardize the continued presence of any species in the area. Shooting of animals from aircraft may be allowed, only where specifically authorized by provisions of state law and upon the approval of the BLM authorizing officer.

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Since most ADC techniques require the use of motorized vehicles (such as ground shooting and trapping), impacts to WSAs are minimized by the following policy statement, also found in BLM Manual H-8550-1:

Recreational use of mechanical transport, including all motorized devices, as well as trail and mountain bikes, may only be allowed on existing ways and trails and within "open" areas that were designated prior to the passage of FLPMA (October 21, 1976) [Federal Land Policy and Management Act of 1976]. If impacts of ORVs threaten to impair the area's suitability, the BLM may limit or close the affected lands to the types of ORVs causing the problems.

Black-footed Ferret Reintroduction Area. No prairie dog control would be allowed in any black-footed ferret reintroduction area.

Two specific measures would be used to avoid capture or injury to ferrets from traps or snares:

All snares would be equipped with stop devices two inches in diameter to preclude the capture of black-footed ferrets.

All traps would be equipped with pan tension devices to preclude the capture of ferrets.

Rodent Control

The following guidelines apply to rodent control.

There must be documented resource damage or human health or safety concern.

A black-footed ferret survey, if necessary, must be done in accordance with U.S. Fish and Wildlife Service (FWS) guidelines.

BLM would conduct the survey on BLM-administered public lands; APHIS or the private landowner would be responsible for acceptable surveys on private lands.

A biological assessment must be prepared by BLM with concurrence of the FWS.

A site-specific environmental assessment must be prepared by the BLM.

Control work, if approved, must be supervised by APHIS.

Funding will be provided by the BLM if BLM requests control to meet multiple use objectives identified in a land use plan.

Funding will be provided by the affected parties in coordination with APHIS if the only reason for control is in order to be effective on private or state lands.

All contact with private landowners must be done by APHIS. Any agreements are between APHIS and the private landowner and pertain only to private land.

Alternative 2: Animal Damage Control in 10 counties with No M-44s and limited steel trap and snare use (Preferred Alternative)

Introduction
This alternative incorporates everything described in Alternative 1 with the following additions and changes.

No M-44s would be authorized on the public lands in the Casper District and no steel leg-hold traps or snares would be authorized on the public lands in Goshen, Niobrara and Platte counties to provide protection for the Swift Fox, which is a Federal Category 2 Candidate Species.

In response to these concerns, our analysis shows the following: 1) Sodium cyanide does not have secondary poisoning effects. A canid or carnivore killed from the ingestion of the chemical will not cause the death of another canid, carnivore, animal or bird that feeds upon it. Due to the application method and mode of toxicity, the only potential exposure scenario would occur through direct contact. 2)Although the M-44 was designed to specifically target only canids (i.e., coyotes foxes and feral dogs) it has resulted in the death of not only nontarget canids, including domestic dogs, but also other animals that are not canids, such as badger, bobcat, skunk, porcupine, raccoon, ring-tailed cat, black bear, raven, crow and vulture. This total of 1,052 nontarget deaths in 16 western states during fiscal year 1988, or approximately 6 percent of the total animal kill resulting from the use of M-44 (APHIS-ADC Direct Control Methods Report 1992). 3) Death occurs by propelling sodium cyanide into the animals mouth, causing death through the inhalation of toxic fumes. When in contact with moisture, sodium cyanide releases hydrogen cyanide, the actual toxicant. Coma and death follow within 60 to 120 seconds. No pain is experienced since the chemical prevents oxygen use by the tissues. 4) No human has ever been killed by the M-44. The likelihood of this happening would be almost non-existent. Those at greatest risk are the trappers who set the devices.

ADC Techniques
ADC techniques described in the Proposed Action would be available for use in this alternative with the exception of M-44s. The use of M-44s would not be authorized for use on the public lands in the Casper District due to the statewide public controversy as to their use and the potential hazard to public health and safety in the use of the public lands. No steel leg-hold traps or snares would be authorized on the public lands in Goshen, Niobrara or Platte counties to protect the Swift Fox a Federal Category 2 Candidate Species.

Planned ADC Activities
This alternative would include control areas that were identified in Alternative 1.

Planned Control Areas
Same as Alternative 1

Special Considerations and Restrictions
Same as Alternative 1

Human Safety Zones
Same as Alternative 1

Limited Control Areas
No offset steel leg-hold traps or snares would be authorized on the public lands in Goshen, Niobrara and Platte counties to protect the Swift Fox, a Federal Category 2 Candidate Species.

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Rodent Control
Same as Alternative 1

Emergency Control
Same as Alternative 1

Alternative 3: No Action (No Animal Damage Control)

Under this alternative, no ADC operations by APHIS-ADC would be authorized on BLM administered public lands in the Casper District. Public lands are interspersed with private and state sections and parcels throughout the district. APHIS-ADC currently conducts ADC activities on many of these private and state lands. APHIS-ADC activities would be expected to continue under this alternative on private and state lands using all of the techniques previously outlined (including M-44 devices). However, lethal and non-lethal ADC activities would continue on public lands by livestock producers, their agents and the general public, as long as they act within Wyoming statues. The No Action Alternative is not a BLM prerogative which can be selected without elimination or modification of the Animal Damage Control Act of 1931, as amended. It is, nevertheless, within the discretion of BLM to restrict or deny use of individual methods or techniques, either seasonally or by locale where justification warrants.

The coyote and red fox are classified the WGFD as predators and are hunted and trapped for sport and fur. The BLM and APHIS-ADC recognize that predator control (primarily coyote), both lethal and non-lethal, will continue to occur on public and private lands by the general public for recreation, by stockgrowers to protect their livestock, and by independents for the stockgrowers. Under State law, the taking of predators can occur on public lands by anyone, using such methods as trapping, snaring, aerial hunting, ground shooting, or calling with the aid of decoy dogs, so long as they comply with Wyoming State Statues (e.g., Wyoming Department of Agriculture; pilots must obtain landowner permission prior to hunting). No chemical control, however, may be used on public lands administered by the BLM without BLM authorization. Nevertheless, use of the M-44 device and other legal chemicals can be used on private lands, as long as their use is in compliance with Wyoming Statues.

In the Casper District, large blocks of private land interspersed with state and/or federal land exist in the southwest APHIS-ADC, under agreements with County Predatory Animal Control Boards, would still conduct animal damage control activities on private and state lands utilizing all methods of control previously discussed, including use of M-44 devices.

When there is no federal government predator control program or if livestock growers become dissatisfied with the Federal program, livestock growers will take personal action to protect their livestock from predation. They may form an organization of control agents through the County Predatory Animal Board or may conduct coyote control programs individually. In either case, the opportunity arises for abuse of control techniques and subsequent environmental damage and increased potential for danger to humans, their pets, and non-target animals.

With stockgrowers initiating control activities on their own to protect their herds, the probability of certain individuals using toxicants illegally could increase. M-44s and the toxic 1080 collars available from the Wyoming Department of Agriculture to certified pesticide operators could end up in the hands of unauthorized persons. In addition, chemical toxicants such as insecticides that could be used as predicides are available on the legal market. A no lethal control restriction on public lands could encourage some users to illegally hunt coyotes from aircraft. Because of its vastness and remoteness, it would be extremely difficult to stop illegal predator control practices on BLM-administered public lands. Individual actions may not be confined to private lands, but carry over onto public lands.

Alternative 4: Continuation of BLM Emergency Control Process

Under this alternative, the BLM would take no action on APHIS-ADC' proposed plan and operations would continue as they are conducted at present. Since April 1993, as a result of a nationwide policy decision, the Casper District has operated under "emergency control only" procedures. In Wyoming the procedures require that ADC activities may only be conducted for a five-day period from the initial loss, within a 3-mile radius of the loss site and, in response to a livestock predation loss verified by APHIS-ADC personnel. Following the request for control, the BLM has 24 hours to prepare an EA and give APHIS-ADC approval to proceed with control measures.

CHAPTER III. AFFECTED ENVIRONMENT

Introduction

This section describes the environmental parameters that *may be affected* by animal damage control activities on public lands within the Casper District.

It has been determined that the following elements would *not be affected* by the proposed or alternative predator control activities and therefore will not be discussed further in this document: air quality, water quality, regional hydrology, floodplains, wetland/riparian zones, soils/watershed, vegetation, visual resources, prime/unique farmlands, fisheries, threatened and endangered fish and plants, wild horses, Native American religious concerns, cultural values, historical or paleontological values, hazardous/solid materials, wild and scenic rivers, minerals, and forest resources.

General Setting

The Casper District is located in the northeastern portion of Wyoming and includes all of Campbell, Converse, Crook, Goshen, Johnson, Niobrara, Platte, Sheridan, and Weston Counties, and a three quarters of Natrona County (see Map 1). The District boundaries include over 21 million acres, of which 2.3 million acres (10.9 percent) are public lands administered by BLM. Table 1 shows the land ownership by county.

The District borders South Dakota and Nebraska on the east, interior Wyoming to the south and west, and Montana on the north. The Bighorn, Black Hills, and Medicine Bow National Forests and Thunder Basin National Grasslands extend into the district.

The Casper District encompasses six major river basins, including the Cheyenne, Little Missouri, Niobrara, North Platte, Powder, and Tongue. The North Platte River System drains about a fourth of Wyoming.

Physiographically, the majority of the Casper District is located within the Great Plains Shortgrass Prairie Physiographic Region (Kuchler 1964). Vegetation associated with this region is comprised mostly of short grasses (grammas and buffalo grass) and mid-grasses (needlegrasses and wheatgrasses) grow on the more favorable sites. Areas of sagebrush, shrubs, and pine and deciduous forest also occur. Adjacent mountain ranges to the west and south (Big Horn and Medicine Bow Forests) have steep slopes and narrow valleys which rise sharply from short and mid-grass basins. The Black Hills to the east are more gently sloped with alluvial fans at the edges of the basins which merge into rolling plains (Kuchler 1964).

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TABLE 1

Land Ownership Within the Casper District

County:	BLM Acreage[1]	Total Acreage[2]	% Under BLM Management	Counties with ADC Agreements	Counties w/out ADC Agreements
Campbell	235,966	3,052,091	7.7%		X
Converse	144,186	2,751,230	5.2%		X
Crook	92,024[4]	1,859,768	4.9%	X	
Goshen	26,487	1,432,448	1.8%	X	
Johnson	512,051	2,692,510	19.0%		X
Natrona[3]	1,146,540	3,041,404	37.7%		X
Niobrara	124,085[4]	1,672,960	7.4%	X	
Platte	82,240	1,370,991	6.0%	X	
Sheridan	50,730	1,640,031	3.1%	X	
Weston	75,059[4]	1,553,714	4.8%	X	
District Totals:	2,290,469[5]	21,067,147	10.9%	(450,625) 2.0%	(2,038,743) 8.9%
District Totals:[6] Counties w/ADC	450,625	9,529,952	4.7%		
% of State	(18,398,385) 12.4%	(62,343,040) 33.8%			

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[1] From Buffalo (1984), Platte River (1984), and Newcastle (1993) Resource Management Plans.

[2] Includes all acreage - land and water. Wyoming Department of Administration and Information, Division of Economic Analysis, 1991. "Wyoming Data Handbook 1991." Cheyenne, Wyoming.

[3] Acreages shown for Natrona County exclude the southwest corner of the county. That portion of the county is administered by the Lander Resource Area of the Rawlins District.

[4] Does not include approximately 1,000 acres (in total, all three counties combined) of land surface managed by BLM with mineral estate owned by others.

[5] Includes 1,000 acres of BLM surface lands in Crook, Niobrara, and Weston Counties with mineral estate owned by others.

[6] Includes only those six counties with ADC agreements with APHIS.

Wildlife Resources

Big Game Animals

Big game species occurring within the district are elk, mule and white-tailed deer, pronghorn antelope, and moose, with black bear and mountain lion classified as trophy game animals. Big game species have generally received the most management emphasis due to their importance to the local economy. Hunting and fishing activities are high income-generating industries within the district.

Moose (*Alces americana*) occur only in the Big Horn mountains within the district. Winter and summer ranges tend to be relatively close, with animals using the same seasonal ranges year after year. Moose habitat generally occurs above 6,000 feet around riparian areas associated with willows. Moose use of BLM lands on the district is usually only incidental.

Elk

Elk (*Cervus canadensis*) use BLM-administered public land to summer on and as winter or crucial winter range, associated with the southern and east slope of the Big Horn Mountains, the Black Hills, and the Medicine Bow Mountains (including Casper and Muddy mountains). In general, elk inhabit wind-blown, grassy slopes at elevations from 5,000 to 8,000 feet during the winter. A portion of the winter range is designated crucial winter range because these areas provide essential habitat during very severe, stressful winters. These areas are crucial in that they are a determining factor for a population's ability to maintain itself. Winter concentration areas, especially crucial winter range areas, are protected by seasonal "no surface occupancy" stipulations. Elk calving and summer feeding areas are characterized by dense timber and parkland meadows usually occurring above 8,000 feet (5,000 to 7,000 feet in the Black Hills). Disease and predation effects on elk are not quantified in the district, but appear to be minimal, although effects could be increased during harsh winters.

Deer

Both mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) occur throughout the district. Resident mule deer populations are common in association with riparian, agricultural, and adjacent foothill areas. Migratory mule deer populations summer at elevations above 7,000 feet in mountain ranges within the district and winter around 4,000 to 7,000 feet in elevation, along ridge complexes, juniper/shrub foothills, and dry washes which offer sufficient cover and feed. Winter concentration areas for these migratory mule deer are considered crucial and are protected by seasonal "no surface occupancy" stipulations. White-tailed deer occur along most major drainages and are closely associated with riparian/agricultural areas. They also occur throughout the Black Hills.

Pronghorn Antelope

Pronghorn antelope (*Antilocapra americana*) occur throughout the district where movement is not restricted by barrier fences, topography, forests, and water distribution. Winter ranges generally occur between 4,000 and 7,000 feet elevation, in basins and benchlands where Wyoming big sagebrush communities dominate and snow depths remain relatively shallow and wind-blown. These areas are roughly associated with mule deer winter ranges in some areas, but are generally more widespread.

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Trophy Game Animals

Mountain Lion and Black Bears

Little is known about the distribution and population status of mountain lions (*Felis concolor*) and black bears (*Ursus americanus*) in the district. Generally, mountain lions are associated with juniper or pine-dominated rough canyon country in conjunction with deer and elk herds. Mountain lions are believed to occur mainly along the edges of the National Forests in the district and due to their very secretive habits, are rarely seen by humans, except in relation to hunting pursuits. Sport hunting removes a few mountain lions each year and is monitored closely by the Wyoming Game and Fish Department (WGFD) to ensure a viable population is maintained. Portions or all of eleven mountain lion hunting units (1, 2, 3, 4, 5, 6, 8, 15, 16, 22, and 23) occur within the district. Thirty six mountain lions were harvested in these units in 1992. Mountain lions are carnivores and are more dependent on prey animals for their livelihood. Deer constitute the main component of the lion's diet. They will also eat elk calves, carrion, porcupines, gophers, rats, squirrels, and livestock (sheep, cattle, and horses). They may return to a carcass and feed for several days. It is not uncommon for lion to roam as far as 100 miles (APHIS-ADC EIS, 1990). The main habitat component restricting mountain lion populations is the absence of large, undisturbed, remote wild areas. Human presence and continuing activities throughout the lion's habitat will continue to limit lion population numbers. Generally, no mountain lions or as many as four, have been taken by APHIS-ADC activities in all of Wyoming in recent years (Table 2).

TABLE 2
ANIMALS KILLED BY APHIS-ADC IN WYOMING[1]

Species	1986	1987	1988	1989	1990	1991	1992	1993
Badger	7	1	2	9	18	55	62	59
Black Bear	0	1	1	1	2	0	1	0
Bobcat	12	7	8	14	3	10	17	29
Coyote	6,032	5,517	5,726	6,269	5,911	5,483	7,320	7,875
Red Fox	438	545	893	1,121	1,054	1,209	1,906	1,283
Mountain Lion	0	0	0	4	1	0	1	0
Opossum	0	0	0	3	0	0	0	0
Raccoon	6	5	5	34	102	127	371	344
Skunk	0	0	4	18	174	172	448	214
Porcupine	1	0	0	1	4	35	59	77
Beaver	4	14	0	0	0	0	0	0

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[1] These numbers represent only a small portion of the animals taken within Wyoming, but these numbers show general trends. Those taken by county and commercial trappers, private ranchers, and recreational hunters are not available.

Suitable black bear habitat exists in the timbered and foothill areas within and around the three National Forests in the district. Black bears usually inhabit mixed timber stands with associated parkland areas and riparian habitat along streams where berries are readily available in late summer and early fall. At times, drought may cause bears to follow stream courses down to lower elevations and onto BLM lands in search of food. Black bears are also very secretive by nature and are rarely seen by humans, except in relation to hunting pursuits. Sport hunting removes a few bears each year and is monitored closely by the WGFD to ensure a viable population is maintained. Portions or all of eight bear hunting units (1, 2, 3, 4, 6, 27, 28, and 29) occur within the district. Sixty three black bears were harvested in these units in 1992, the majority being harvested on National Forest Lands. Black bears may kill or injure deer, elk (calves), sheep and cattle, though they are omnivorous and eat large quantities of berries and grasses. During drought periods when berries and herbaceous foods are less available, bears tend to be more dependent on prey species and predation incidents may increase. Generally only one or two black bears are taken by APHIS-ADC activities in all of Wyoming in recent years (Table 2).

Game Birds

Upland

Upland game birds inhabiting the Casper District include sage grouse (*Centrocercus urphasianus*), sharp-tailed grouse (*Pedioecetes phasianellus*), blue grouse (*Dendragapus obscurus*), mourning dove (*Zenaidura macroura*), ring-necked pheasant (*Phasianus colchicus*), chukar (*Alectoris graeca*), Hungarian partridge (*Perdix perdix*), and wild turkey (*Melagris gallopavo*). Sage grouse are the most common and are widely distributed in areas with sage brush as the major component, although sage grouse numbers have been decreasing during the past several years. It is speculated that this decrease may be due, in part, to increases in populations of predators in eastern Wyoming, particularly the red fox, coyote, eagle, and raven. Sage grouse utilize areas with substantial densities of sagebrush to provide cover and camouflage.

Sharp-tailed grouse are found in the eastern and northern portions of the district in the transition zones between grasslands and forested areas. Blue grouse are restricted to the coniferous/deciduous tree foothill and mountain areas within the district. Turkeys are found in riparian areas associated with uplands and in forested areas. Mourning doves are summer residents only. Chukar and Hungarian partridge are scarce and occur in limited areas within the district.

Waterfowl

The district lies within the central flyway. The period of occupancy by waterfowl is short term. Historically, duck and goose populations are composed of migrants, some of which use waters in the district for nesting as well as for resting and feeding. The cold winters freeze the water, making it unavailable. The WGFD maintains that the lack of nesting habitats for ducks and geese is a limiting factor, although numerous small ponds (especially private stock ponds) improve the habitat. The North Platte River, and the large reservoirs along it, receive the major populations of nesting geese and ducks. However, Hawk Springs, Bump-Sullivan and Springer waterfowl refuges and preserves provide additional habitat for both nesting and resting during migration. These areas are also very important and productive waterfowl and shorebird breeding, nesting, and brood rearing area.

Predation on nesting waterfowl is a continuous problem. Control of predators (red fox, coyote, skunk, and raccoon) during the waterfowl nesting season generally has a beneficial effect on waterfowl nest success rates. The most destructive nest predator, and the most difficult to control, is the red fox. Because of the use of wetland areas by waterfowl for nesting, and the lack of these wetland areas in Wyoming, and the fact that red foxes prefer hunting in these highly productive areas, red foxes are very successful in preying on waterfowl causing greatly lowered waterfowl and shorebird nesting success.

Nongame

Prairie dogs exist throughout the district. Both black-tailed (*Cynomys ludovicianus*) and white-tailed (*Cynomys gunnisoni*) prairie dogs are present with the black-tailed variety generally inhabiting the more eastern shortgrass prairie habitats and the white-tailed species more common in the more western shrubgrass and desertgrass communities. Prairie dogs are of special importance because they are the most important prey of the endangered black-footed ferret as well as being an important prey species for raptors, coyotes, red foxes, and other predators. Prairie dog towns also provide nesting habitat for burrowing owls. Rodent control (usually prairie dogs) will not be conducted under the umbrella of this EA by APHIS-ADC and will only be conducted at the request and approval of the district manager.

Furbearers

The following species are classified as furbearers by the WGFD within the district: martin, bobcat, beaver, ermine, longtail weasel, mink, muskrat, and badger. Bobcats (*Lynx rufus*) occur throughout the district where ridges, characterized by rocky outcrops and vegetative cover, provide hunting opportunities and hiding and escape habitat. The bobcat prefers rocky canyons with ledges and areas of dense vegetation in broken, brushy country or mountains. Vegetation commonly associated with bobcat habitat includes juniper, sagebrush, and mahogany. The beaver (*Castor canadensis*) and muskrat (*Ondatra zibethica*) are associated with aquatic habitats, open water areas adjacent to aspen, willow, or cottonwood types. The ermine (*Mustela erminea*), or shorttail weasel, is associated with riparian woodlands of coniferous forests or cottonwood river bottoms. The longtail weasel (*Mustela frenata*) and mink (*Mustela vison*) are associated with riparian-shrublands or areas near open water. The badger (*Taxidea taxus*) is associated with the sagebrush grasslands and basin grasslands. The martin (*Martes americana*) is typicily found in montain and alpine forested habitats.

Raptors

There are over 27 species of hawks, eagles, and owls either nesting, thought to nest, or have the potential of nesting in the district. If not nesting, species are either wintering populations, migrants, or possible migrants. The bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), ferruginous hawk (*Buteo regalis*), prairie falcon (*Falco mexicanus*), osprey (*Pandion haliaetus*), and golden eagle (*Aquila chrysaetos*) are raptors of high priority and subject to conservation and habitat criteria for management. The burrowing owl (*Speotyto cunicularia*) is an uncommon species and "rare" in abundance with a biological status designation indicating declining populations and/or habitat conditions. Raptors nest on hilltops, low cliffs, and rock escarpments found within the sagebrush steppe community, marsh/grasslands, riparian/cottonwoods, and coniferous/deciduous forests.

Animal Damage Control Program

The WGFD defines predatory (predacious) animals as coyote, jackrabbit, porcupine, raccoon, red fox, skunk, and stray cat (Title 23, Wyoming Game and Fish Laws 1989) and as such are open to take year-round without restriction. The Casper District is inhabited by all these species. The coyote and red fox are the predatory animals of concern, because of their predation on domestic livestock, primarily sheep, big game, small game, upland game, non-game and other wildlife, they are the principle species targeted for control. The red fox is targeted primarily during the lambing season, because as the lambs grow, they are not as vulnerable to predation by the smaller red foxes. Figure 1 (WASS, 1993) shows coyotes (as well as other predators) to be taking an increasing number of sheep and lambs in Wyoming, note the steady increase from 1989 to 1993. Figure 1 also shows a decline in non-predator losses in Wyoming, thought to be due to mild winters during recent years.

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The APHIS-ADC predator control program within the Casper District is implemented by three ADC districts utilizing up to seven (7) trappers. These individuals are responsible for responding to animal damage control requests within an area of over 9.5 million acres (six counties) of public, private, and state land. Generally, the mode of operation during this time consists of calling/shooting and aerial gunning with little use of the control devices during lambing. The reason for this is that ewes and lambs are scattered so that traps and snares are impractical. The M-44, however, is used on private lands and is the most effective device utilized during this time frame since it can be used without harming a ewe or lamb. During the winter, the traps and snares are most effective since the sheep are more closely bunched.

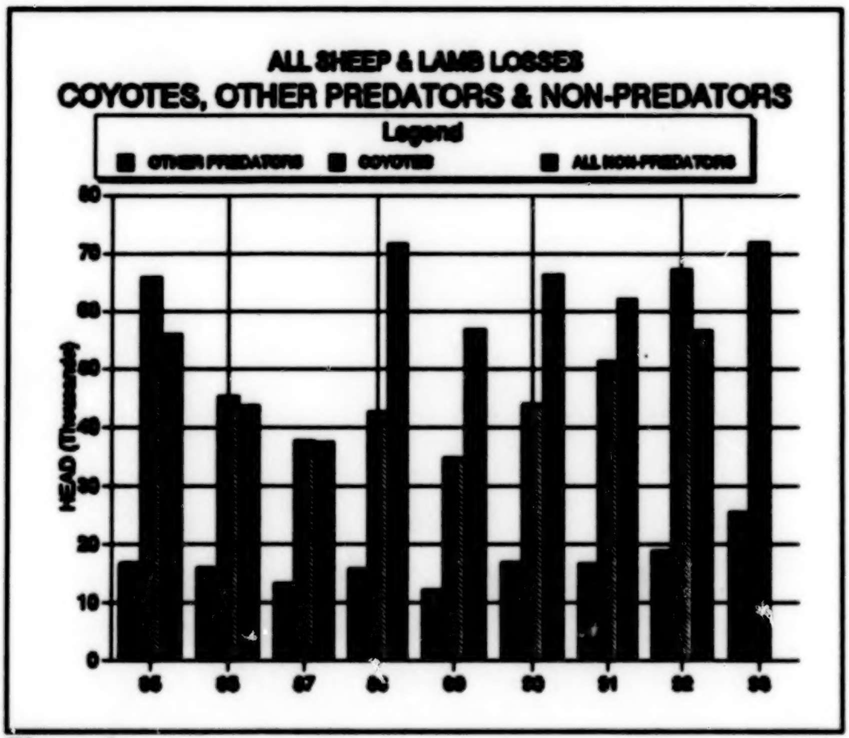

Figure 1

Each trapper is issued the necessary control equipment to conduct their control work. This includes leghold traps, M-44 devices, calls/rifles, and snares. Each trapper usually has a preferred method of control - leghold traps, calling/shooting, aerial shooting, snaring, M-44's, etc. Aerial control seems to be the most effective, yet is the most expensive. When comparing methods in Table 3, note that the personal preference of each trapper comes to play. For example, if a trapper prefers to call in and shoot coyotes, he/she may have a high number of animals in the "Shot" column, and a lower number in the "Trapped\Snared" column. Each method of control is used for a certain situation and each trapper has a preferred method. When using mechanical devices, not all are placed out at one time. For example, between 15 and 20 devices - traps, snares, and/or M-44's (on private lands) - may be associated with a band of sheep. A landowner may also affect a trapper's selection by stating their preference, or prohibition of a certain control method. Generally, where there is a band of sheep there could be mechanical devices nearby, although not in every case.

Predators

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Coyote

The coyote (*Canis latrans*), a very adaptable, prolific, opportunistic animal, and occupies almost every habitat in North America. The coyote has survived intensive predator-control programs similar to that which extirpated the wolf in most of the continental U.S. Moreover, it has expanded its range. The coyote inhabits brush, prairies, and plains, as well as wooded and mountainous areas. Coyotes are found throughout the entire Casper District in all habitat types, and is the primary target of ADC activities (2,636 coyotes taken in the Casper District in 1993).

The coyote's ability to expand its range and adapt to so many habitat types is partly due to its versatile food habits (BLM 1986). Coyote foods include carrion, eggs, insects, berries, melons, and other fruits and vegetables. They also prey on rodents, rabbits, birds, reptiles, poultry, deer, antelope, and livestock. They may prey individually, in pairs, or in packs (Niebauer and Rongstad 1977; Berg and Chesness 1978; Huegel 1979; Weaver 1979). According to Spowart and Samson (BLM 1986), coyotes are primarily carnivorous, but their diet depends on the food resources most available, so they easily adapt to being omnivorous.

TABLE 3

COYOTES TAKEN IN THE CASPER DISTRICT IN 1992 & 1993 BY APHIS-ADC BY METHOD

County	Trapped\Snared		Shot		Denned[1]		M-44		Aerial	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Natrona	105	42	99	84	28	30	30	29	191	299
Goshen	22	7	66	92	11	6	89	13	161	242
Crook	15	21	49	94	19	12	33	5	226	106
Weston	0	0	42	17	5	5	5	3	223	323
Niobrara	8	9	72	117	39	32	27	44	454	451
Platte	4	0	55	69	1	0	69	47	89	185
Sheridan	35	11	22	67	58	13	17	14	152	245
Johnson[2]	-	-	-	-	-	-	-	-	-	-
Campbell[2]	-	-	-	-	-	-	-	-	-	-
Converse[2]	-	-	-	-	-	-	-	-	-	-
Totals:	189	90	405	540	161	98	270	155	1496	1851

Total for 1992 = 2,360 Coyotes taken

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[1] These figures are "Dens taken" and not individual animals. Totals do not include these numbers.

[2] Johnson, Campbell, and Converse are counties which APHIS does not have agreements with local predator control boards, so no predator control has been accomplished by APHIS.

Total for 1993 = 2,636 Coyotes taken

Spowart and Samson cite an extensive food habits study conducted by Sperry in 1941 in 17 western states that showed the major diet items of the coyote were "lagomorphs (rabbits, 33%), carrion (25%), rodents (18%), and domestic livestock (13.5%)." Figure 2 shows the cottontail rabbit harvest in Wyoming over the past twenty years. While quantified cottontail populations are not possible on a statewide basis, hunter harvest closely parallels the population (i.e.; when cottontail populations are high, so is hunter harvest). Note the cyclic nature of the cottontail, cycling about every seven years. This cycling is due to disease, predation, weather (note harsh winters of 1983 and 1988 and the resulting "dips" in the following years population), etc. and is related to population size.

In the sagebrush habitat of north-eastern Utah and south-central Idaho, Clark (1972) reported "coyotes ate about 90 percent animal matter; black-tailed jackrabbits approached 75 percent of their year-round diet." This dependence on a single prey species will influence coyote density in a region. The opportunistic nature of the coyote causes domestic livestock (primarily sheep and particularly during lambing and calving) to be especially vulnerable to predation by the coyote. Adult sheep, lambs, and calves are easy prey for the coyote because they are not aggressive, cannot outrun the coyote and are easily overpowered and quickly killed. So if ewes, lambs, or calves are within the coyotes cruising range for food, they will very likely be taken as prey.

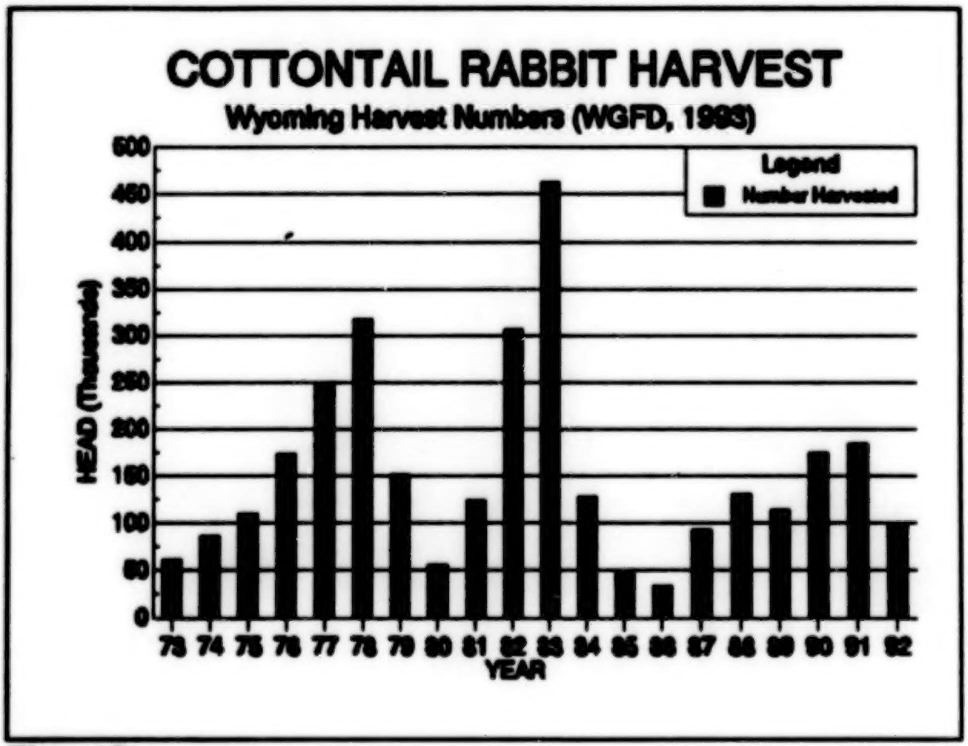

Figure 2

As noted in several of the studies, although extremely adaptable and opportunistic, like most species of carnivores, coyote populations are regulated largely by food abundance and availability. Population densities of coyotes and their principal prey are strongly correlated (Clark 1972; Wagner and Stoddart 1972; Johnson and Hansen 1979) (see also predator/prey relationships section). Exact coyote population data does not exist for the State of Wyoming. However, population data of a relative nature, in the form of population trend indices, does exist and is maintained by APHIS-ADC. These include records of depredation incidents (confirmed losses, Table 5), coyotes removed per aerial hour, and coyotes removed per unit of ground effort (APHIS-ADC 1993). Using population modeling, a density of 0.9 coyotes per square mile has been suggested (Predator Damage in the West, 1978, USFWS Report), indicating that there would be a total of 29,625 coyotes in the Casper District. Clark (1972), using a more gross evaluation, estimates that typical coyote population densities range from 0.3 to 5.0 per square mile. There is a total of 32,917 square miles in the Casper District. This gives an estimated population ranging from 9,875 to 164,585 coyotes in the Casper District. Using these three indices, it can be shown that coyote populations are increasing.

Following a 2-month gestation period, coyotes may bear four to eight pups. Typically, a population of 100 coyotes would produce 180 young each year and the mortality rate would range from 24 to 76 percent. Food availability has a strong influence on litter size and survival but, as yet, the carrying capacity of coyote habitat in terms of prey abundance cannot be evaluated on an absolute basis (USDI 1981a; Voight and Berg 1987).

In 1990, the General Accounting Office report provides an estimate of 8,030 coyotes killed by hunting and trapping in Wyoming per year, over a 10-year average (1979-1988). Casper comprises 34 percent of the state in area. ADC harvest in the Casper District accounts for 36 percent of the total ADC harvest (1992 data) and it is probably safe to assume that between 34-36 percent of the sport harvest is also from the Casper District, or approximately 2,811 coyotes (35 percent). If we assume that this figure accurately reflects sport harvest today, then the proportion of sport harvest from the Casper District is approximately 2,811 coyotes or 9.4 percent of the population. The combined annual harvest (ADC + H&T) of 5,447 animals or 18.3 percent of the estimated coyote population is within the range for many other western states for which there is comparable data (see Table 4-25 in the 1993 Supplemental EIS for ADC from APHIS). Prices paid for coyote pelts for the fur trade fell during 1983/1984 and have remained fairly low ever since. This has contributed to the reduced take of coyotes by sport hunters hoping to make money selling coyote pelts.

Predator/Prey Relationships

Figure 3 compares the number of cottontail rabbits taken by hunters, the number of sheep and lamb losses, and the number of coyotes taken by APHIS-ADC control. The relative numbers show a strong correlation between prey (cottontail rabbits and sheep/lambs). When prey species are abundant, predator species will generally follow suit. Coyote numbers, as evidenced by an increased take by ADC control from 1991 through 1993 (assuming a fairly static pressure by APHIS-ADC personnel, are in all probability, on the increase. Even though ADC activities were curtailed in 1993 and so far in 1994 by the Humane Society's appeal to IBLA and BLM's resulting change in policy to halt all but emergency ADC actions on BLM lands, more coyotes were taken in 1993 by APHIS-ADC action.

Predator/prey relationships generally cycle over a seven year period (Figure 3). Rabbit (prey) populations erupt and crash generally over this seven year period (excluding a harsh, limiting weather year). Prey animals generally are prolific, able to have multiple, large litters per year, quickly building up their populations - eruption (Figure 2), peaking in 1991. When populations are high, then disease, predation, habitat degradation, etc., causes a quick decrease (crash) to occur. Predators (coyotes, red foxes, etc.) are also greatly influenced. As populations of prey increase, then the survivability of predators increases with this increased food source, since they utilize rabbits (prey) as their primary food source. Larger litters of young are born with more young and adults surviving. Predators cycle about a year or two behind their prey, as they reproduce slower and less eruptively, so when prey animals are crashing, the predators are still increasing (see Figure 3). At this time in the cycle, the predators look for alternative food sources or perish. Sheep/lamb - coyote interactions are most prevalent during this period as sheep/lambs become an important alternate prey source, resulting in reported higher predation losses by ranchers. Currently the cottontail rabbit population in Wyoming is down and the predator populations are still high, causing predators to seek alternate prey sources, which include livestock and wildlife species. This condition lasts for a year or two and then the predators begin to decline without their primary prey source. With decreased predators, little competition for forage, etc., then the prey species begin to build-up again and the cycle repeats itself. A year or two later the predators hit their low in the cycle, which also takes the pressure off of the sheep and lambs (see Figure 3).

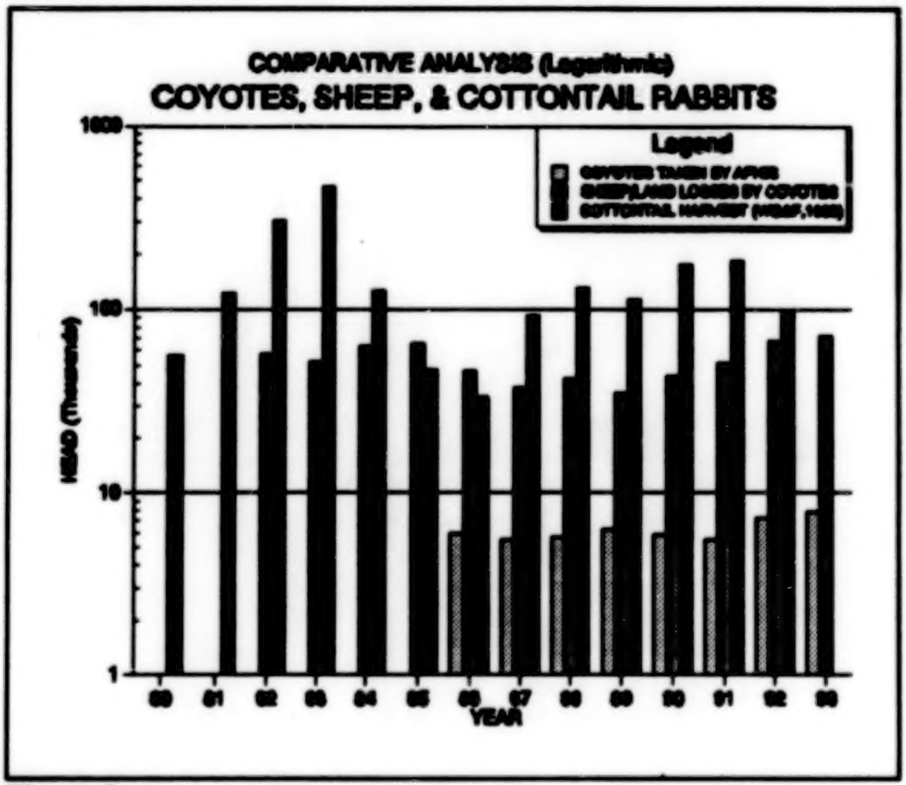

Figure 3

This predator/prey cycle is important as it explains variations in sheep/lamb predation and intensity. It also explains why with limited ADC control in 1993 (due to the BLM reducing ADC activities), the number of coyotes taken by ADC increased - there were more coyotes (higher population) and the number of sheep/lambs taken by predation increased - they became the alternate food source. Coyote numbers will most likely be decreasing over the next few years due to the loss of their major prey species.

Red Fox/Swift Fox

Red fox (*Vulpes fulva*) occur throughout the district in habitats associated with lower elevation riparian or agricultural lands and are also a frequent target of ADC actions. Like the coyote, the red fox has adapted to a wide range of habitat types and foods. While it ranges from deep forests to the most exposed tundra, it prefers a mixture of forest and meadows. Red foxes are also opportunistic feeders, eating foods in proportion to their availability. They are omnivores and eat rabbits, mice, birds, reptiles, amphibians, fruits, and corn. Foxes also prey on lambs and have become a problem on nearly all lambing ranges within the district.

Red foxes are reproductively mature at one year and can bear up to 13 young in a litter. Population densities range from 0.3 to 2.6 per square mile giving an estimated red fox population range for the Casper District of 9,875 to 85,584 animals. Red foxes may live up to 12 years, but annual mortality has been reported as high as 80 percent (Voight, et al. 1985).

The 1990 Seedskadee National Wildlife Refuge (in western Wyoming) four-year research study on the effects of predation to waterfowl nesting in the vicinity of the developed refuge wetlands showed that during the period when no predator control occurred, waterfowl nest success was only 5 percent. With the introduction of predatory animal control (red fox, skunk, and raccoon) during the waterfowl nesting season, over a three-year period, the waterfowl nesting success rate increased to 45-71 percent (a 900 to 1,400 percent increase). The most destructive nest predator, and the most difficult to control, was the red fox.

The red fox has expanded its range within the Casper District from concentrations in and around the farming and agricultural areas to areas along the major rivers to expanded zones around these areas. Frequent reports are received by the WGFD that the red fox populations have increased substantially over the past couple of years, along with the coyote, eagle, and raven, which may be one factor contributing to sage grouse population decline in eastern Wyoming. One possible theory for the red fox expansion is that they have expanded to fill niches vacated by the more dominate predator (wolf and/or coyote) which has been eliminated or reduced and the increase in riparian productivity/vegetation and the increase of cover/habitat/prey base through the Conservation Reserve Program (CRP).

An indication of red fox population changes utilized by APHIS-ADC is a comparison of the number of red foxes taken by predator control activities compared on a yearly basis. Because APHIS-ADC methodologies, emphasis, and the number of personnel remains relatively the same year-to-year, then increases or decreases in the red fox (or coyote) populations can generally be correlated to the number of animals taken by APHIS-ADC operations, i.e.; if ADC takes more animals in a given year, then the population would most likely be increasing over the previous year (also see discussion on predator/prey relationships). Because the numbers of predators taken generally follows a trend (see Table 2 and Figure 3) and isn't erratic (other than through weather, disease or other limiters), this indication is generally accurate. APHIS-ADC records show an increase in the number of red foxes taken between 1986 and 1992 (438 in 1986 to 1,906 in 1992 - see Table 2). This would suggest a substantial increase in the red fox population in Wyoming over this period. The decline of fox taken in 1993 from those in 1992 resulted from the implementation of the emergency control procedures which emphasized only confirmed losses and target animals (Table 2).

The swift fox (*Vulpes velox*), a Federal Category 2 Candidate (for threatened or endangered (T/E) status) species, is found in shortgrass prairie habitats in Goshen, Platte, and Niobrara counties. This species is currently being live-trapped for release in Alberta and Saskatchewan, Canada. No swift foxes have been reportedly taken by ADC activities. Because of their feeding habits (they do not prey on sheep/lambs) and BLMs policy to protect Category 2 species to keep them from being listed as a T/E species, swift foxes will not be targeted for ADC actions. To ensure this, no leg-hold traps will be used in Goshen, Niobrara or Platte Counties as swift fox are easily trapped and have been found in traps set for coyotes.

Jackrabbit, Porcupine, Raccoon, and Skunk

Both the black-tailed jackrabbit (*Lepus californicus*) and white-tailed jackrabbit (*Lepus townsendi*) occur within the district. The white-tailed is by far the most prevalent species. Low growing shrub-grasslands (sagebrush-grasslands) and prairie areas are the most commonly used habitat. Populations of jackrabbit do not reach extremely high densities. Uniform densities of 1 to 3 per acre would be considered high (BLM 1986). The lagomorphs, including the jackrabbit, are important in many food chains, being prey for many raptors and terrestrial predators, such as the coyote and fox (Bittner and Rongstand 1982; Chapman, et al. 1982; Dunn, et al. 1982). Population can be cyclic, but are more often than not influenced by environmental factors such as weather and temperature.

Porcupine (*Erethizon dorsatum*) occur throughout the district. They may be seen in deciduous and coniferous forests, and sometimes in shrublands or prairies, miles from the nearest trees. Raccoon (*Procyon *lotor*) occur in riparian areas where stands of deciduous trees grow along the many river and streambottoms on the district. Skunk (*Mephitis mephitis*) occur in most habitat types, including mixed woodlands, brushy areas, and rocky outcrops.

Non-Target Animals Taken During Predator Control

Non-target animals taken during predator control activities are generally comprised of other species such as bobcat, badger, raccoon, porcupine, swift fox, and skunk. Within the district, non-target species were taken with the leghold trap and included the badger, porcupine, and skunk (Table 2). Badgers are normally released with only the porcupine and skunk taken. APHIS-ADC trappers make an effort to reduce the frequency of catching non-target animals by proper placement of traps, use of scent stations to attract coyotes, and use of pan tension devices on traps to reduce capture of light weight animals. Non-target animals (animals other than coyote and red fox) taken collectively represent from less than 1 to approximately 9 percent of the annual predator kill by APHIS-ADC in the district.

Threatened And Endangered Species

Black-footed ferret (*Mustela nigripes*), bald eagle (*Haliaeetus leucocephalus*), and peregrine falcon (*Falco peregrinus anatum*) either occur, or have a potential to occur, within the district. Below is a brief description of the current status of each species. Although there are other federal candidate species of fish, amphibians, and plants, only mammals and birds have the potential to be affected by predator control activities. Therefore, affected habitat descriptions for fish, amphibians, and plants are not discussed any further.

Black-Footed Ferret

The black-footed ferret is a large, buckskin-colored weasel with black face mask, black-tipped tail, and black feet, and can weigh up to 3 pounds. They depend upon prairie dogs for both food and shelter and have never been found where prairie dogs do not exist. Today, at least partly due to the extensive prairie dog poisoning campaigns of the 1930s, the black-footed ferret is one of the rarest native mammals in North America.

The black-footed ferret has been threatened with extinction since the 1940s. The fragmentation and loss of habitat along with declining ferret populations is well documented. Despite massive inventory efforts, no wild, free-ranging populations of black-footed ferrets are known to exist today. The only hope of preventing extinction depends on reestablishing several populations in the wild along with intensive management to offset causal factors of the decline.

The last known wild black-footed ferrets were found in Meeteetse, Wyoming, but this species once ranged from the great plains of Canada to intermontane regions of the interior Rocky Mountains and Southwest. The likelihood of other populations of ferrets being found in the wild is considered low, and if some remain, the probability of their continued survival and viability in the wild for long periods of time is considered low by population biologists.

There are no recent known populations of black-footed ferrets in the Casper District although the occurrence of ferrets within the historic range of the species must still be considered possible (USFWS 1992). There is a continuing effort within the district to map and search prairie dog colonies for the ferret. Over the past two decades, there were several probable and confirmed sightings of black-footed ferrets throughout the district. Our most recent data indicates that there were eight "possible to probable" sightings of black-footed ferrets in 1988; one sighting each in Campbell, Crook, Goshen, Johnson, and Platte counties, and three sightings in Natrona County (WGFD 1988).

Since the black-footed ferret is almost exclusively and obligately associated with the prairie dog (*Cynomys* spp.), historical range of this mustelid is nearly identical to that of three prairie dog species. Two of these species inhabit the district: the white-tailed prairie dog (*Cynomys leucurus* Merriam) and the black-tailed prairie dog (*Cynomys ludovicianus ludovicianus* (Ord.)). Consequently, the historical range of the black-footed ferret probably included the entire district.

In the spring of 1991, 49 ferrets were released in the Shirley Basin of Wyoming on an "experimental population" basis. An additional 90 ferrets were released in 1992 and 48 more in 1993. In November of 1993, 24 ferrets were noted during surveys. APHIS-ADC control activities to remove coyotes and badgers, which are predators of ferrets, have been successful so that these transplants could take place. A portion of the Shirley basin lies on the southern edge of the Casper District. See map 1, Black-footed Ferret Reintroduction Area.

Bald Eagle

The bald eagle is a wide ranging species, found in all of the 48 contiguous states at some point in its life cycle. Currently, bald eagles are federally listed as endangered in 43 states and threatened in 5 states (Washington, Oregon, Minnesota, Wisconsin, and Michigan). Since the cancellation of DDT by the EPA in 1972, bald eagle breeding populations have been increasing. On February 7, 1990, the U.S. Fish and Wildlife Service published a Notice of Intent (55 FR 4209) to reclassify the bald eagle from endangered to threatened throughout all or portions of its range, but to date no formal reclassification proposal has been published (USFWS 1992).

The locations of wintering concentrations of bald eagles are predictable but more loosely defined, and usually occur in response to prey availability (ice-free areas affording fishing opportunities, waterfowl concentrations, etc.) and favorable habitat conditions (roost sites, etc.) (USFWS 1992). During mid-winter periods when ice-free waters are not available, bald eagles change from a prey base of fish and waterfowl to forage primarily upon road kill, winter kill, and other carrion.

The bald eagle is a common winter resident and occasional nester within the district. A number of roosts have been identified, including the Jackson Canyon roost on the west end of Casper Mountain, one of the most significant bald eagle roosting areas in the Rocky Mountain region. Other known bald eagle winter roosting sites are Little Red Creek Canyon near Jackson Canyon and several sites on Pine Mountain in Natrona County. There are also bald eagle winter feeding concentration areas along the North Platte River from Pathfinder Reservoir to west of Casper, from Glenrock to Douglas, and between Glendo and Guernsey reservoirs.

Eight bald eagle nests have also been identified, and management of these areas are discussed in the Platte River, Newcastle, and Buffalo resource area RMPs as well as the *Final Bald Eagle Habitat Management Plan for the Platte River Resource Area and Jackson Canyon ACEC*.

Peregrine Falcon

The peregrine falcon is a medium-sized raptor, which is highly migratory as is much of its prey. It breeds in the forest regions of Alaska and the Yukon Territory, and south of the tree line in northern and eastern Canada to northern Mexico. The falcon winters from southern United States to South America, with northern populations tending to winter further south (USFWS 1992).

Extensive use of organochlorine pesticides is considered the primary reason for the decline of peregrine falcons (USFWS 1991d). Since restrictions were placed on the use of DDT in the early 1970s, populations stabilized, and in 1978 began to increase. Population increases continue to the present in nearly all areas.

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Peregrine falcons are occasionally observed during migration in the district, but there are no recently recorded or documented nesting attempts. The Bureau of Reclamation conducted intensive surveys of the best potential habitat along the North Platte River, including Fremont and Wendover canyons, and the cliffs surrounding Glendo and Guernsey reservoirs, but no sign of nesting peregrines was found. The only peregrine falcon nesting habitat, as identified in the "American Peregrine Falcon - Rocky Mountain\Southwest Population Recovery Plan" (1984), occurs in the Black Hills in the Newcastle Resource Area. Several years ago, an attempt was made by the FWS, the U.S. Forest Service, and the Peregrine Fund to reintroduce peregrine falcons into the Black Hills. Young falcons were released and monitored throughout the summer, but the birds did not return the next summer following the winter migration. Currently, there is no peregrine falcon nesting activity in the Black Hills nor in any other potential habitat in the district.

Special Management Areas

Wilderness Study Areas

There are three WSAs in the district, located in Johnson and Campbell counties (map 1). The Wyoming BLM wilderness recommendations to Congress propose not to designate these WSAs as wilderness areas. This recommendation has been submitted by the Secretary of the Interior to Congress and is awaiting their action. However, until Congress takes action on the BLM suitability recommendations, all the wilderness study areas will be managed under the *Interim Management Policy and Guidelines for Lands Under Wilderness Review* (BLM Manual H-8550-1). These three areas must be managed as if they were designated.

Public Land Uses

Public land is used for a variety of purposes and may be industrial or recreational in nature. Industrial uses include, but are not limited to, oil and gas exploration and production, livestock grazing, mining, and timber production. Recreational uses include, but are not limited to, hunting, fishing, camping, trapping, sightseeing, horseback riding, hiking, rock hunting, and off-road vehicle use. The land use plans for the respective BLM Resource Areas (Buffalo, Newcastle, and Platte River) provide detailed information on these and other uses and any limitations on their use on public lands.

Livestock Grazing Operations

Livestock production is a major industry in Wyoming and the Casper District. Wyoming ranks 3rd in the nation in sheep and lamb production (2nd for sheep alone, and 2nd in wool production) and 28th in cattle and calves. Over half (57 percent) of the sheep and 50 percent of the cattle production in Wyoming in 1993 occurred on the Casper District (Table 4). Within the Casper District there are a total of 1,281 livestock operators that graze approximately 346,000 AUMs from the public lands.The following discussion concentrates on sheep operations because the need for predatory animal damage control is predominately associated with sheep operations.

The typical sheep operation is comprised of seven periods of activity in the annual cycle of sheep husbandry. These are generally described by the Tigner and Larson study (1977). The Tigner and Larson study was conducted in the Rawlins BLM District between 1973 and 1975. It was a 3-year research study, under the Division of Research, U.S. Fish and Wildlife Service, conducted to determine the magnitude and causes of sheep loss during range operations in the mountain West. Five southern Wyoming sheep ranching operations were closely monitored year-round. This study is referenced because it was completed in Wyoming and although the lands in the Rawlins District are of a higher percentage of BLM ownership than the Casper District, the overall similarity serves as an appropriate example of sheep ranching operations for the Casper District.

Summer Grazing - Usually during the period of July through September sheep graze the mountain allotments located on the National Forests. A few operators remain on BLM allotments during the summer period.

Sorting and Shipping - In September, the sheep are trailed, or occasionally hauled by truck, from the summer range to the operator's shipping point. Here lambs (except for replacement ewes) are separated and shipped either to a farming area for further fattening or directly to market. Winter herds (bands) of about 2,000 ewes and replacement ewes-lambs are readied for trailing to winter range.

Trailing to Winter Range - Trailing to winter range may take a week to ten days depending on how far the operator's shipping point is from his winter range allotment. Predation occurs during this period, but is generally light since the sheep are maintained in a fairly tight bunch and guard dogs and herders are near.

Winter Range Use - October through March is usually the winter use period. Rams are put with the ewes for breeding about mid-December and removed about mid-January. The ewes graze on the winter range until shearing, mid-April to mid-May. The winter period is the second highest period of death loss during the year. Causes include exposure, starvation, predation, disease and poisonous plants, and accidents. Tigner and Larson found during this season, for the five sheep operations studied, a 3-year average confirmed loss due to all causes at 2.6 percent lambs and 1.6 percent ewes. Thirty-nine (39) percent of the lamb loss and 22 percent of the ewe loss was due to predation. For lambs lost, exposure was the next highest at 38 percent, with accidents and disease following at 9 and 8 percent, respectively. For ewes lost, disease/poisonous plants was highest at 32 percent, and accidents 19 percent.

Trailing to Spring Range - Trailing to spring (lambing) range may take a week to ten days depending on how far the operator's range is from his winter range allotment. Predation occurs during this period, but is generally light since the sheep are maintained in a fairly tight bunch and guard dogs and herders are near. Some operators shear their sheep at pens while still on their winter range. Following shearing, they trail their sheep to lambing range.

Spring Shearing/Lambing - At the shearing pens in April, often located at or near the ranch headquarters, ewes are sheared and then herded to a nearby lambing range. Range lambing then begins by forming herds of about 1,000 to 2,000 ewes as they leave the shearing pens in late April or early May. Herds are usually tended by herders throughout lambing. Lambing begins about May 10.

When the first 500 ewes have lambed, the ewes and their lambs are then gathered so the lambs can be tail-docked, marked, and castrated. When 500 more ewes have lambed and the lambs are docked, marked and castrated, then these two bands of 500 ewes and their lambs are combined into a lambing or summer herd of 1,000 ewes and lambs. They are then moved away to wait for trailing to summer range.

The lambing season is the period of highest death loss. This is the period in a sheep's life, particularly as newborn lambs, when it is most vulnerable to a variety of natural, life threatening causes. These causes include predators, exposure, starvation, stillbirth and abnormalities, disease and poisonous plants, and accidents. Losses during the lambing season always exceed those for the other seasons combined. Figure 4 shows losses of sheep and lambs due to coyotes and weather. More lambs died to coyote predation after they had their tails docked and were generally out of the protective cover of lambing sheds or close supervision of herders on lambing grounds and were on the spring/summer range. Coyotes were the highest cause of mortality after docking, while weather caused mortality was the highest before docking. Adult sheep were generally most affected by coyotes except during 1983 and 1984, which were years of harsh winter weather.

TABLE 4

Livestock on Wyoming Farms and Ranches within the Casper District by County[1]

County	1989	1990	1991	1992	1993
SHEEP:	(includes	lambs).			
Campbell	52,000	48,000	53,000	44,000	50,000
Converse	80,000	80,000	82,000	93,000	88,000
Crook	26,000	27,000	28,000	35,000	32,000
Goshen	5,000	6,000	5,000	4,000	3,000
Johnson	90,000	93,000	91,000	95,000	108,000
Natrona[2]	76,000	76,000	79,000	78,000	74,000
Niobrara	18,000	17,000	18,000	21,000	21,000
Platte	7,000	6,000	5,000	4,000	3,000
Sheridan	13,000	14,000	15,000	16,000	15,000
Weston	11,000	10,000	9,000	12,000	13,000
TOTALS:	378,000	377,000	385,000	402,000	407,000
% of State	53%	53%	53%	56%	57%
CATTLE:	(includes	calves)			
Campbell	66,000	60,000	56,000	70,000	75,000
Converse	76,000	65,000	67,000	55,000	60,000
Crook	59,000	54,000	56,000	60,000	55,000
Goshen	119,000	108,000	95,000	120,000	115,000
Johnson	47,000	43,000	40,000	55,000	55,000
Natrona[2]	43,000	35,000	33,000	70,000	85,000
Niobrara	47,000	40,000	40,000	40,000	40,000
Platte	83,000	72,000	71,000	65,000	70,000
Sheridan	73,000	70,000	61,000	90,000	130,000
Weston	40,000	38,000	39,000	55,000	45,000
TOTALS:	653,000	585,000	558,000	680,000	675,000
% of State	47%	48%	47%	53%	50%

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[1] Wyoming Agricultural Statistics Service, 1993. "Wyoming Agricultural Statistics 1993." In cooperation with the Wyoming Dept. of Agriculture. NASS, USDA, Cheyenne, Wyoming.

[2] The southwest corner of Natrona County is within the Lander Resource Area of the Rawlins District. Public land surface in Natrona County covers 1,170,374 acres in the Casper District.

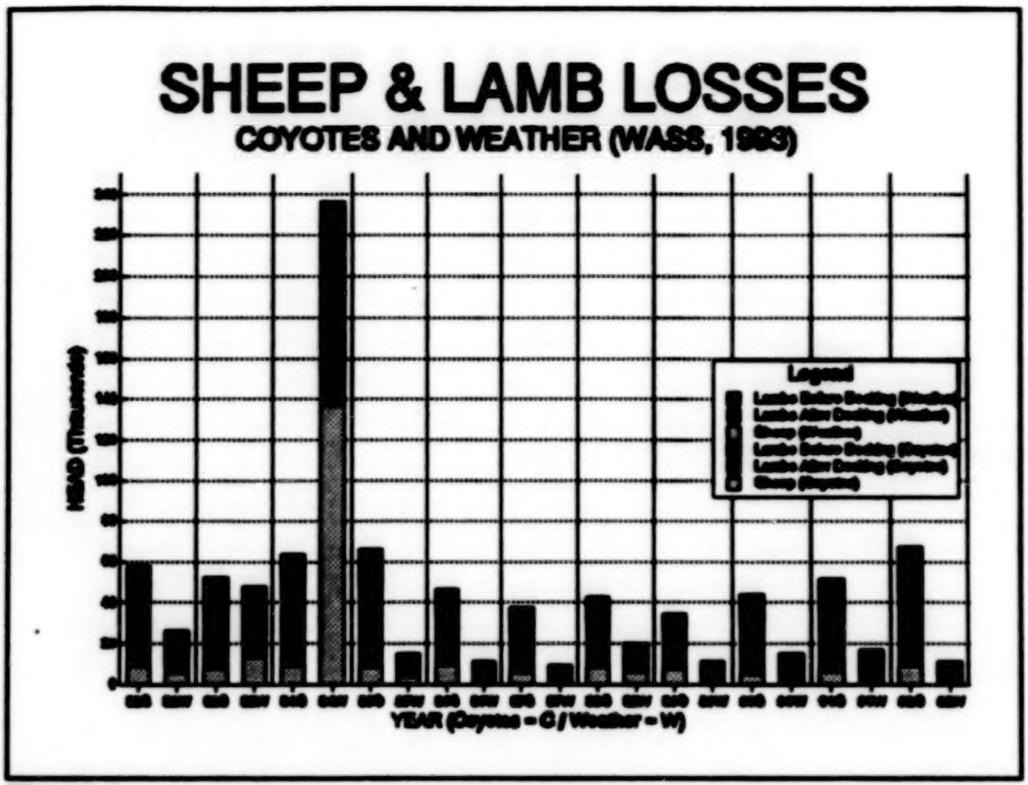

Figure 4

Tigner and Larson found during this season, for the five sheep operations studied, a 3-year average confirmed loss due to all causes at 12.8 percent lambs and 1.3 percent ewes. Sixteen (16) percent of the lamb loss and 10 percent of the ewe loss was due to predation. For lambs lost, starvation and exposure was higher, at 18 and 17 percent, respectively. For ewes lost, disease/poisonous plants and accidents were higher, at 27 and 25 percent, respectively.

Trailing to Summer Range - In June or July, as lambing is completed, and lambs docked, males castrated, the ewes and their lambs are formed into summer herds. When herds of 2,000 animals are formed (approximately 1,000 ewes and 1,000 lambs), the herders begin trailing the sheep to summer ranges, generally on National Forest lands, taking about a week to make the trip. Occasionally they are trucked. Dry ewes are separated out and readied for shipping to market.

Contrary to the belief of some, livestock producers are not reimbursed for losses due to predation. The WGFD will consider claims for livestock damaged or killed by *big or trophy game animals* (e.g., bear, lion, etc.) if submitted no later than 15 days after the damage is discovered by the owner of the property or the representative of the owner, to the nearest game warden, damage control warden, supervisor, or commission member. No award shall be allowed to any landowner who has not permitted hunting on his property during authorized hunting seasons. Any bear, mountain lion, or bobcat doing damage to private property may be immediately taken and killed by the owner of the property, employee of the owner, or lessee of the property. The owner, employee, or lessee shall immediately notify the nearest game warden of the killing (WGFD Laws, 23-1-901 and 23-3-115).

In an attempt to reduce predator losses, sheep operators use herders. One to two herders accompany each band of sheep on summer and winter ranges. Lambing is the most difficult time as herders are spread thin. One herder must stay with the early-lambing ewe herd while the other stays with the ewes not yet lambed or in the process of lambing (drop bunch). Whether on lambing range, summer range or winter range, herders must constantly be alert for anything that may cause the loss of an animal. The importance of a competent herder at all times is critical. Tigner and Larson noted that "...Although there are still a few good middle-aged herders and a few old-timers in their sixties, most of the herders hired are young and inexperienced. The combination of inexperience and poor supervision of the herders resulted in mixing of herds, accidents, missing sheep, death and abandonment on the lambing grounds, scattering of the herds, theft of lambs, and numerous other problems including predation." Good competent herders are very hard to find.

Tigner and Larson found that predators were responsible for indirect damage to herds as well as outright killing. Scattering of a herd by predators, particularly a drop bunch (ewes giving birth that drop out of the slowly moving lambing herd to tend their young) during lambing, cause some ewes and their lambs to become seperated so that lambs die from starvation, trampling, or exposure without their death being attributed to predation.

Tigner and Larson also noted that while the wild predators may take the weak and sick first, domestic sheep are so defenseless that it makes little difference whether lambs are healthy or not - coyotes, fox, or bear kill them with ease. In fact, it is possible that the healthier, more active lambs attract the attention of predators more.

Recreation

Recreation activities occur throughout the Casper District. Recreational activities are considered an important use of the public lands by the local citizens and the visiting public. Most of the recreation use on public lands occurs during the snow-free periods with the summer and fall seasons receiving the highest use. However, winter use also occurs, but the level of human use during this period is generally very limited or non-existent on most of the BLM lands within the district where most of the APHIS-ADC activity would occur. Some of the activities that occur in areas where predator control activities would take place include:

> *Spring/Summer* - Off-road vehicle use, sightseeing, bird watching, hiking, horseback riding, photography, fishing, rock hounding, camping, and fuelwood gathering occur. Localized high levels of public use occurs at prominent points and stretches along the historic Oregon/California/Mormon and Bozeman Trails. Perennial streams with fishing potential also receive localized high use by visitors during this period. Some hunting seasons begin in the late summer months such as upland game birds (grouse), antelope, and archery season for big game. Many people bring their dogs with them on these various recreational activities. Dog owners train their dogs for hunting, field trial, sledding, etc. These activities may not be compatible with various APHIS-ADC control methods.
>
> *Fall* - Hunting (big game, small game, waterfowl) is the primary activity that occurs during this period, with lower levels of the other types of recreational activity listed under spring/summer continuing. Many hunters use dogs in the pursuit of upland game birds and waterfowl.
>
> *Winter* - Hunting (small game, late big game seasons, predators) and trapping are probably the highest level of winter use that occurs, with snowmobiling, cross country skiing, and dog sledding representing other recreational uses.

Socioeconomics

As noted in Table 4, approximately 407,000 sheep and 675,000 cattle were on northeastern Wyoming farms and ranches in 1993, with many utilizing BLM lands at some time during the year. This level of production represents a significant part of Wyoming's livestock production (50 percent of the cattle and 57 percent of the sheep in 1993). Approximately 1,281 livestock operators (1,108 cattle and 173 sheep) graze livestock

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on public lands administered by the BLM in the Casper District in 1991. These operators and their families are dependent upon the income from their ranching operations for their livelihood. The value of cattle/calves, sheep/lambs, and wool within the State of Wyoming in 1992 was estimated at $463 million (WASS 1993).

The Wyoming Agricultural Statistical Service's 1993 analysis found that statewide, sheep producers lost an estimated 143,000 sheep and lambs to all causes during 1992, 10 percent more than in 1991. Predators accounted for 60 percent of the total death losses while weather related deaths accounted for 8 percent of all losses. Table 5 provides, by county, APHIS-ADC recorded verified confirmed sheep losses incurred by livestock operators due to coyote predation within the Casper District. Coyotes are the primary predator of sheep and lambs in Wyoming, in 1992 accounting for 78 percent of the total predator losses and 47 percent of all losses. In 1992 sheep producers lost 86,300 sheep and lambs to predators, of which 67,300 were lost to coyotes followed by fox and eagles. An increase of 27 percent in sheep and lamb losses due to predation occurred in 1992 over 1991, with coyote losses increasing by 31 percent. In 1993 sheep producers lost 97,500 sheep and lambs to predators, of which 72,000 were attributed to coyotes.

Depredation Incidents - Each year, the Wyoming Agricultural Statistics Service consolidates sheep and lamb losses. A substantial trend increase has occurred over the past several years (Figure 1); 13.3 percent increase from 1987 to 1988, 18.5 percent decrease to 1989 (non-predator losses were the highest in 9 years due to weather), 28.1 percent to 1990, 16.9 percent increase to 1991, 31.2 percent increase to 1992, and a 7.0 percent increase to 1993. An increase of 13 percent in sheep and lamb losses due to predation (from 1992 to 1993), with coyote losses increasing by 7.0 percent. This is the fourth consecutive year with an increase in sheep and lamb losses due to coyotes.

The economic loss to sheep and lamb producers caused by predators in 1992 was an estimated $3,303,800. Total loss to all causes was estimated at $5,857,500 (WASS, 94-03). Tigner and Larson (1977), during the period of 1973 through 1975, conducted an intensive three-year study of sheep losses from all causes on five Wyoming ranches in the BLM Rawlins District. About 6,000 ewes and their lambs were monitored each year during lambing, summer, and winter grazing seasons. The study showed lamb loss was greater than ewe, and spring losses were always greater than summer and winter losses combined. Of 4,440 dead sheep examined, predators killed 1,030 or 23 percent. Disease killed the most ewes (28 percent), with predation the second most often cause of death (18 percent) of which coyotes caused 77 percent, black bears 11 percent, and golden eagles 9 percent.

Cattle (predominately calves) losses to predation were much lower and are currently quantitatively unknown, but all calf losses amounted to roughly 25,000 in Wyoming in 1992, an overall loss to all causes of approximately 3.6 percent, based on 591,000 beef cows calving in Wyoming (Woodard and Hixon, 2/94). Cattle/calf losses to predation are currently being compiled for 1994 and following by the Wyoming Agricultural Statistics Service, NASS, USDA, in Cheyenne, Wyoming.

Statewide, sheep producers in Wyoming lost $4.2 million from sheep and lamb deaths due to predators in 1993. This was up 27 percent from $3.3 million in 1992. Coyotes alone cost producers $3.1 million in 1993. This is a significant amount and attributable to an increase in both higher prices for sheep and more head lost (WASS 1993).

TABLE 5
APHIS-ADC VERIFIED LOSSES TO COYOTES IN FISCAL YEARS 1992 & 1993

County	Lambs		Ewes		Calves	
	1992	1993	1992	1993	1992	1993
Natrona[1]	367	320	51	63	0	13
Goshen	41	11	10	1	7	17
Crook	172	61	6	36	3	1
Weston	69	59	14	15	4	17
Niobrara	272	155	7	23	3	0
Platte	16	17	4	3	2	10
Sheridan	58	124	1	17	1	4
Johnson[2]	-	-	-	-	-	-
Campbell[2]	-	-	-	-	-	-
Converse[2]	-	-	-	-	-	-
Total:	995	747	93	158	20	62

The *Animal Damage Control Act of 1931* authorizes and mandates the Secretary of Agriculture to conduct control of animals injurious to agriculture, animal husbandry, wild game animals, fur-bearing animals, birds, and for the protection of stock and other domestic animals. The Secretary budgets and the U.S. Congress approves and appropriates funds to conduct predator control and research on more efficient, effective, and humane methods of control in accordance with provisions of the Act.

Funds for predator control activities originate from federal government appropriations, County Predatory Animal Board fees collected annually from sheep operators (up to $0.60 per head sold) and cattle operators (up to $0.20 per head sold), County Grazing Boards, State Department of Agriculture, and funds from the WGFD to reduce predation in localized areas on game or T/E wildlife populations (APHIS-ADC 1993). In 1992 and 1993, respectively, a breakdown in the origination of these contributions was 40.6 and 47.7 percent non-federal (i.e., grazing boards and County Boards), 52.5 and 45.9 percent APHIS-ADC (federal government), 3.5 and 2.9 percent State Department of Agriculture, 1.6 and 2.0 percent Union Pacific Railroad, and 1.8 and 1.5 percent WGFD. The increases in contribution by the county grazing boards in 1993 over 1992 were to increase aerial control on winter and lambing ranges due to increases in sheep losses to an apparent increase in coyote and fox populations.

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[1] Beginning in 1994, Natrona County no longer has an approved agreement with the local predator control board. No predator control can be accomplished by APHIS-ADC in Natrona County until a new agreement is approved.

[2] Johnson, Campbell, and Converse are counties with which APHIS does not have agreements with local predator control boards, so no predator control has been accomplished by APHIS.

CHAPTER IV. ENVIRONMENTAL CONSEQUENCES

Introduction

This section describes the environmental consequences of each alternative. These impacts take into account the animal damage control measures taken by APHIS-ADC, even though the BLM only manages 10.9 percent of the total surface area within the Casper District.

As noted at the beginning of Chapter III, it has been determined that the following elements would not be affected by the proposed or alternative animal damage control activities and therefore will not be analyzed for impacts: air quality, water quality, regional hydrology, floodplains, wetland/riparian zones, soils/watershed, vegetation, visual resources, prime/unique farmlands, fisheries, threatened and endangered fish and plants, wild horses, Native American religious concerns, cultural values, historical or paleontological values, hazardous/solid materials, wild and scenic rivers, minerals, and forest resources. Predator control activities do not have the potential to impact or change the character or value of the listed resources. Only those components that would be affected by the proposed and alternative predator control activities are analyzed.

Proposed Action

The proposed action would provide for the continuation of APHIS-ADC's ongoing program of predator control on the public lands with the inclusion of the use of M-44s. The proposed action would utilize the cooperative integration of all available non-lethal and lethal methods of control. The proposed predator control would be conducted within the planned and limited control areas shown on map 1 and in accordance with the stipulations and restrictions in Chapter II.

The proposed action applies only to actions to be performed by APHIS-ADC on BLM-administered lands within the Casper District and in those counties where the Predator Animal Boards currently have agreements with APHIS-ADC to conduct animal damage control (Crook, Goshen, Niobrara, Platte, Sheridan, and Weston counties). Less than 4.7 percent of the lands in these counties is managed by the BLM.

Non-lethal methods used at the discretion (and affordibility) of the livestock producer would include animal husbandry practices (e.g., use of herders, guard dogs, diligent herding, use of sheds and pens during lambing and calving, herding sheep away from high risk areas); and animal behavior modification techniques (e.g., electronic distress sounds, propane exploders, pyrotechnics, lights and aversive agents such as chemical repellents). However, these tactics have limited application since predators tend to adapt or habituate to the scare or aversive tactic. Lethal methods of control would be aerial shooting, calling and shooting, leghold traps, snares, denning, decoy dogs, and M-44 sodium cyanide devices.

Wildlife Resources

Elk, Deer and Antelope

Impacts to big game from ADC activities on public lands may occur if aerial gunning is conducted on crucial big game winter range without regard to the presence of big game in the areas. The stress/harassment would cause the animals to metabolize more body fat reserves and make it more difficult for the animals to survive severe winter conditions. If efforts are made to ensure that animals are not present in the areas prior to ADC efforts being initiated impacts would be insignificant.

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Moose

Under this alternative, there would likely be no impacts to moose due to ADC activities. No crucial winter ranges have been identified and only incidental contact might be expected between moose and ADC actions.

Game Birds

Under this alternative some game birds, (most likely sage grouse) could be negatively impacted if ADC activities were to occur when birds are concentrated in crucial habitats. In areas of heavy predation, ADC actions may have a beneficial impact on some populations of both upland game birds and waterfowl by reducing pressures from predators. A reduction in fox numbers when populations are high can also reduce waterfowl nest predation. By applying the limited control areas in Chapter 2 impacts to game birds should be reduced and the impacts should be insignificant.

Raptors

Under this alternative, few impacts would be anticipated to raptors, either nesting, fledgling, or wintering in the district. Raptors, as migratory birds are protected by the Migratory Bird Treaty Act (MBTA), would not be significantly impacted because all ADC activities, whether on public or private lands are required to comply with the provisions of the MBTA and other appropriate wildlife protection legislation (such as the Endangered Species Act). Prairie dog control could reduce some habitat for burrowing owls. With the application of controls on ADC in areas of bald eagle wintering concentration areas and in raptor nesting areas the impact on raptors should be minimized and the impacts insignificant.

Nongame Animals

Under this alternative, no significant impacts are expected to occur to nongame animal species. The most likely nongame species to be impacted by ADC activities are white-tailed and black-tailed prairie dogs. The use of the M-44, although canid specific, could increase the risk of taking noncanid, nontarget species. These would include badger, skunk, raccoon, black bear, mountain lion, bobcat, and domestic dog and cat. However, with implementation of the restrictions defined in Chapter 2 including the EPA Use Restrictions, Appendix B, the likelihood of non-target species being taken can be reduced. Only a small number of nontarget species are taken each year by APHIS-ADC in Wyoming (Table 2).

With the majority of animal damage control taking place on state and private lands (95.3 percent of land surface) the impacts of animal damage control on the public lands would be insignificant.

Prairie dogs and other small mammals could accidently be caught in leghold traps, but this occurrence should be rare. Additional prairie dog populations would be impacted through any rodent control activities which might be undertaken by APHIS-ADC. These populations are very localized and are removed to reduce or eliminate damage being caused by the rodent. The overall impacts are expected to be insignificant to general nongame population levels.

Predators/ADC Control

Coyotes represent the primary target of ADC actions within the Casper District. An average of 5,891 coyotes were killed be APHIS-ADC in Wyoming between 1986 and 1990. In 1992, 2,360 coyotes were killed by APHIS-ADC and 2,636 in 1993 in the seven counties that had agreements with APHIS-ADC. In January 1994 Natrona County did not renew their agreement with APHIS-ADC. An average of 810 red foxes per year were killed by APHIS-ADC between 1986 and 1990 in Wyoming. Control of all the other species noted in Table 1 is generally localized and species specific, using control methods designed for individual control situations.

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impacts to nontarget predators, furbearers, or trophy game animals during control actions for any individual species would occur from time to time, but the overall impacts are anticipated to be minimal. State wildlife agencies reported that no swift fox were taken by ADC between 1979 and 1988. An annual average of 109 swift fox were taken by hunting and trapping (GAO Report, 1990).

With a coyote population density ranging from 0.3 to 5.0 per square mile the percentage of population taken by ADC would range from 1.4 - 24.0 percent in 1992 to 1.6 - 28.0 percent in 1993. Using a population density of 0.9 coyotes per square mile (Predator Damage in the West, 1978, USFWS Report) there would be a total of 29,625 coyotes in the Casper District.

Total Human Caused Mortality
APHIS-ADC and Non-APHIS-ADC Actions

Class of Mortality	Coyote #	% Population*
APHIS-ADC Control (1993)	2,636 (1993)	8.9%
Non-APHIS-ADC**	2,811	9.4%
Total	5,447	18.3%

* Calculated as percent of population density of 0.9 coyotes/sq.mi.

** Non APHIS-ADC harvest is based upon the 1992 Program Evaluation from APHIS-ADC where they reported that statewide 7,302 coyotes were harvested.

In 1990, the General Accounting Office report provides estimates of 8,030 coyotes killed by hunting and trapping in Wyoming over a 10-year average (1979-1988). The Casper District comprises 34 percent of the state in area. ADC harvest in the Casper District accounts for 36 percent of the total ADC harvest (1992 data) and it is probably safe to assume that between 34-36 percent of the sport harvest is also from Casper or approximately 2,811 coyotes. If we assume that this figure accurately reflects sport harvest today then the proportion of sport harvest from the Casper District is approximately 2,811 coyotes or 9.4 percent of the population. The combined annual harvest (ADC plus hunting and trapping) of 5,447 animals or 18.3 percent of the estimated coyote population. This is within the range for many other western states for which there is comparable data (see Table 4-25 in the 1993 Supplemental EIS for ADC from APHIS-ADC). Even if you doubled the total ADC and hunting and trapping harvest or cut the population by 50% to .45 animals per square mile you would still fall well below the level of annual mortality that would impact the viability of the population. Connally & Longhurst's 1975 model indicates that you would have to harvest 75 percent of the population for 50 years before eliminating it.

Wilderness Study Areas

There are no WSAs within the counties that are currently under agreement with APHIS-ADC. No ADC actions are proposed that affect the WSAs; therefore, no impacts are anticipated.

Public Health and Safety

With the application of the human control zones, limited control areas, such as bird hunting areas and dog training areas, contact between the public and ADC should be minimized. The EPA restriction on the use of M-44 Cyanide Capsules (Appendix B) require the safe use and handling of the sodium cyanide to protect the public. All anticipated impacts to public health and safety have been addressed in this alternative. No impacts are expected to public health and safety.

Economic Impacts

The purpose of ADC is to "*. . . protect America's agriculture, facilities, and structures, and natural resources, and to safeguard public health and safety . . .*" (USDA, APHIS-ADC 1990b). In Wyoming, the primary beneficiary of ADC services are sheep producers, and to a lesser degree, cattle producers. To accomplish this mission in Wyoming, APHIS-ADC was funded approximately $1.45 million in fiscal year 1990 (USDA, APHIS-ADC 1990a). Funds for ADC originate mainly from federal and cooperative (state and county) sources. Livestock operators reported sheep/lamb losses of $3.3 million for 1992 and $4.2 million for 1993 (USDA, APHIS-ADC 1993). Expenditures and loss estimates are not tabulated on a county basis. Thirteen percent of the sheep produced in Wyoming in 1993 (Table 4) came from the 6 counties within the planned control areas of the APHIS-ADC proposed action, and would roughly equate to a $546,000 loss of sheep and lambs due to predation. BLM manages 4.7% of the land within those counties.

Table 5 shows the reported livestock losses which APHIS-ADC personnel have verified as kills by coyotes. They only have reports from those counties with which they have operation agreements.

Under this alternative, expenditures would be about the same as during fiscal year 1990 (statewide). ADC activities have a positive economic impact on livestock producers, and help to provide some rural communities (where ADC personnel reside, and where services are provided) with some economic stability.

Threatened and Endangered Species

The U.S. Fish and Wildlife Service consultation memorandum and biological opinion to USDA-APHIS-ADC, Washington, D.C., dated July 28, 1992, is referenced in the assessment of potential impacts do threatened or endangered species (see Appendix A).

Black-Footed Ferret. Compliance with the 26 EPA restrictions on the use of M-44s and other plan restrictions would lead to no impacts on black-footed ferrets.

The biological opinion was that the loss of a single black-footed ferret would constitute jeopardy to the species, but if the reasonable and prudent alternatives identified in the formal consultation with the FWS were followed, an incidental take of a black-footed ferret would not take place.

Bald Eagle. Under this alternative, no impacts would occur that would be a threat to the continued existence of bald eagles or their habitats because all ADC actions, whether on public or private lands, are required to comply with the provisions of the Endangered Species Act. The proposed action also requires that aerial hunting not be conducted between November 1 and March 31 when bald eagles are concentrated in the specific areas identified on Map 1. This would avoid harassing, wounding or killing any bald eagles that are in the area.

The biological opinion was that the proposed action would not jeopardize the bald eagle population or its habitat and that if the reasonable and prudent alternatives identified in the formal consultation with the FWS were followed, an incidental take of a bald eagle would not take place.

Peregrine Falcon. Under this alternative, no impacts would occur to the continued existence of peregrine falcons or their habitats because all ADC activities, whether on public or private lands, are required to comply with the provisions of the Endangered Species Act. By protecting the raptor nesting areas through the limited control restrictions impacts to raptor should be avoided.

The biological opinion was that the proposed action would not jeopardize the peregrine falcon population or its habitat.

Alternative 1: Animal Damage Control With the Inclusion of the Four Counties currently not under Cooperative Agreement with APHIS-ADC

The impacts of implementing this alternative would be the same as those described in the proposed action with the following additions.

APHIS-ADC would also be allowed to implement control activities in Johnson, Campbell, Natrona, and Converse counties if agreements were developed with the local predator boards or with local individuals. The animal damage control actions described in this alternative would apply to all public lands in the Casper District including those lands in Campbell, Converse, Johnson and Natrona County. This would allow APHIS-ADC to enter into agreements with the Predator Control Boards or with individual livestock operators in those counties to perform animal damage control according to the approved ADC plan. The BLM administered lands in all the counties makes up 10.9 percent of the surface ownership (see Table 1).

The additional restrictions for dog training areas, bald eagle concentration Areas, and the black-footed ferret reintroduction site would provide more protection in those areas.

Wildlife Resources:
Same as the APHIS-ADC proposed action

Wilderness Study Areas (WSA)
Animal damage control could occur within the WSAs in the Casper District if the restrictions outlined in BLM Manual H-8550-1, "Interim Management Policy and Guidelines for Lands Under Wilderness Review" are adhered to. Any impacts to WSAs should be insignificant.

Public Health and Safety
Further restrictions on the use of control devices (traps, snares and M-44s) and aerial gunning plus prohibiting calling, denning and shooting when individuals and their dogs are in the area should eliminate the potential of creating a public hazard in the area. Impacts to public health and safety should be insignificant.

Economic Impacts
The economic impacts of this alternative would be similar to that of the proposed action. The difference would be that ADC would be available to the four counties that are not currently under agreement with AHPIS. This would have a positive impact on the livestock operators in those counties by making available the services of APHIS-ADC on the public lands. Predation on livestock could be reduced. Expenditures and loss estimates are not tabulated on a county basis. Fifty-seven percent of the sheep produced in Wyoming in 1993 (Table 4) came from the 10 counties within the Casper District and would roughly equate to a 2.39 million dollar loss of sheep and lambs due to predation. The percent of BLM managed land in all 10 counties is 11% (see Table 1).

Threatened and Endangered Species

Bald Eagles
No aerial hunting would be allowed in bald eagle wintering concentration areas between November 1 and March 31. This restriction would eliminate any conflict between aerial gunning and the bald eagle. No ADC will be conducted in the Jackson Canyon ACEC (a bald eagle concentration Area)without prior authorization from the BLM thereby reducing any possible impact to bald eagles.

Black-footed Ferret Reintroduction Area

In addition to the restrictions in the proposed action the total restriction on prairie dog control in any black-footed ferret reintroduction area and specific measures to avoid capture or injury to ferrets should eliminate any impact to the ferrets. Some ADC is applied within the black-footed ferret reintroduction area to reduce depredation on the ferrets. This would be a positive impact for reintroduction efforts for the black-footed ferrets.

Alternative 2: ADC in 10 Counties with no M-44s and limited steel trap and snare use (Preferred Alternative)

The impacts of implementing this alternative would be the same as those described for Alternative 1 with the following additions.

This alternative would not approve the use of M-44s on the public lands in the Casper District. No steel leg-hold traps or snares would be authorized on the public lands in Goshen, Niobrara and Platte Counties. All other non-lethal and lethal methods described in the Proposed Action would be approved for use. The use of M-44s would not be authorized for use on the public lands in the Casper District due to the statewide public controversy as to their use and the potential hazard to public health and safety in the use of the public lands. No steel leg-hold traps or snares would be authorized on the public lands in Goshen, Niobrara or Platte counties to protect the swift fox a Federal Category 2 Candidate Species. animal damage control would apply to all public lands within the Casper District as described in Alternative 1 in Chapter II.

Wildlife Resources

Predators, Furbearers,and Trophy Game

The elimination of the use of M-44s on the public land may reduce the total number of coyotes taken and reduce the incidental take of other predators and furbearers from the public land. In 1992, approximately 11 percent (270) and in 1993, 6 percent (155) of the coyotes killed in the seven reporting counties were taken with the M-44s (see Table 3). The number of coyotes that would have been taken by M-44 devices would probably be taken through the increased use of other approved methods.

The removal of the authorization to use steel leg-hold traps and snares in Goshen, Niobrara and Platte counties would have only a minor affect on the number of predators removed and upon the ability of APHIS-ADC to conduct predator control. The percent of public lands in those counties is small with 1.8 percent in Goshen, 7.4 percent in Niobrara and 6.0 percent in Platte County. In 1992 only 34 coyotes were killed and in 1993 16 coyotes were killed in all three counties. The majority of ADC would be conducted on private or state lands.

The denial of use of M-44s, steel leg-hold traps, and snares would decrease the take of red fox from the public lands.

Public Health and Safety

Removal of the use of M-44s on the public lands would reduce the potential of incidental contact by members of the public or by domestic dogs with the sodium cyanide. The overall potential impact of ADC on public health and safety would be reduced. Overall impacts would be insignificant.

Economic Impacts

By removing the authorization of the use of M-44s on the public lands fewer coyotes could be removed and therefore possibly increasing the predation on livestock. In 1992 11 percent and in 1993, 6 percent (Table 3) of the coyotes killed in the seven counties were taken through the use of M-44s. Other

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methods of animal damage control such as trapping and shooting should help to decrease the pressure from predators on local livestock operations. Overall impacts from this alternative should be insignificant.

Threatened and Endangered Species

With the removal of the use of M-44s, the risk to the taking of threatened and endangered species should be greatly reduced. This would lessen any possible impacts.

By removal of the authorization to use steel leg-hold traps and snares on the public lands in Goshen, Niobrara and Platte Counties the risk of taking the swift fox from the public lands would be removed. The potential of taking a swift fox from the private and state lands would still remain due the large percent of private and state lands in those counties.

Alternative 3: No Action (No Animal Damage Control)

Alternative 3 would assume that there would be no animal damage control activities conducted on the public lands in the Casper District. APHIS-ADC, under agreements with County Predator Animal Boards and individual livestock operators would conduct animal damage control activities on private and state lands utilizing all methods of control including M-44s.

Wildlife Resources

Without animal damage control on the public lands a small percent of the predators normally taken would not be killed or removed. This could have a negative impact in that predation on game bird and waterfowl populations and projects such as the reintroduction effort for the black-footed ferret could increase.

Public Health and Safety

The removal of animal damage control from the public lands would eliminate any possible contact between the public and any ADC activities on those lands (approximately 2 percent). The potential risk to public health and safety would still exist for ADC activities which take place on private and state land within the counties.

Economic Impacts

There could be an increase in livestock losses especially during the lambing season and on winter range when the ADC programs are most effective on predation. With the public lands making up a small percent of the total land ownership in the Casper District increased animal damage control could occur using all methods, both lethal and nonlethal on the private and state lands. This would account for the opportunity lost on the public lands.

Threatened and Endangered Species

Increased predation of threatened and endangered species could occur with no animal damage control on the public lands.

Alternative 4: Continuation of BLM Emergency Control Process

The same restrictions would apply to this alternative as are outlined in Alternative 1, except that APHIS-ADC would be precluded from performing preventative predator control. Since APHIS-ADC would not be able to implement control measures until an actual livestock loss is confirmed, control measures would not be implemented in areas historically prone to predator losses prior to moving livestock into them. This would have an economic impact on livestock operators because predator numbers would not be reduced before livestock are moved in. In other words, losses which may have been prevented would have to take place before control measures could be implemented. It may also allow predator populations to gradually increase. Since the emergency procedures were initiated, 46 requests from April 1993 to the end of January

1994 have been approved for emergency control. Emergency procedures have resulted in 101 coyotes killed. Also during this time, there was actual confirmation that 118 sheep were killed by coyotes. No other predators have been taken by APHIS-ADC during this timeframe.

Wildlife Resources
Same as alternative 1.

Wilderness Study Areas
Same as alternative 1.

Public Health and Safety
Same as alternative 1

Economic Impacts
There were no changes in impacts over the proposed action or alternative 1. More coyotes were taken during 1993 when the emergency procedures were in place than in previous years when restrictions were less. Part of the explanation for this is the increase in coyote populations following a period of years when rabbit populations were high.

Threatened and Endangered Species
Same as alternative 1

Cumulative Impacts

In 1992 there were a total of 7,320 coyotes killed in Wyoming by APHIS-ADC and in 1993 a total of 7,875 coyotes taken. A total of 1,906 and 1,253 red fox were taken in 1992 and 1993 respectively. In the Casper District a total of 2,360 coyotes in 1992 and 2,636 coyotes in 1993 were taken. The overall upward trend of the number of coyotes taken statewide indicates that the overall population of coyotes is also on the increase. The coyote populations are responsive more to the populations of rabbits than to ADC. The population cycles of coyotes lags behind the peak of the rabbit population cycle which peaked in 1990 and 1992 (FIGURE 2). Figure 3 shows the relationship of the rabbits harvested, coyotes taken and the number of sheep/lamb losses by coyotes. This figure shows the general trend between the populations.

With a coyote population density ranging from 0.3 to 5.0 per square mile the percentage of population take by ADC would range from 1.4 - 24.0 percent in 1992 to 1.6 - 26.0 percent in 1993. Using a population density of 0.9 coyotes per square mile (Predator Damage in the West, 1978, USFWS Report) there would be a total of 29,625 coyotes in the Casper District.

Total Human Caused Mortality
APHIS-ADC and Non-APHIS-ADC Actions

Class of Mortality	Coyote #	% Population*
APHIS-ADC Control (1993)	2,636 (1993)	8.9%
Non-APHIS-ADC**	2,811	9.4%
Total	5,447	18.3%

* Calculated as percent of population density of 0.9 coyotes/sq.mi.
** Non APHIS-ADC harvest is based upon the 1992 Program Evaluation from APHIS-ADC where they reported that statewide 7,302 coyotes were harvested.

In 1990, the General Accounting Office report provides estimates of 8,030 coyotes killed by hunting and trapping in Wyoming over a 10-year average (1979-1988).The Casper District comprises 34 percent of the state in area. ADC harvest in the Casper District accounts for 36 percent of the total ADC harvest (1992 data) and it is probably safe to assume that between 34-36 percent of the sport harvest is also from the Casper District or approximately 2,811 coyotes. If we assume that this figure accurately reflects sport harvest today then the proportion of sport harvest from the Casper District is approximately 2,811 coyotes or 9.4 percent of the population. The combined annual harvest (ADC plus hunting and trapping) of 5,447 animals or 18.3 percent of the estimated coyote population. This is within the range for many other western states for which there is comparable data (see Table 4-25 in the 1993 Supplemental EIS for ADC from APHIS-ADC). Even if you doubled the total ADC and hunting and trapping harvest or cut the population by 50% to .45 animals per square mile you would still fall well below the level of annual mortality that would impact the viability of the population. Connally & Longhurst's 1975 model indicates that you would have to harvest 75 percent of the population for 50 years before eliminating it.

In Wyoming the loss of sheep and lambs shows a marked increase in the value of livestock lost to predation, from $3.3 million in 1992 to $4.2 million in 1993. In the Casper District there was a decrease in the number of lambs lost between 1992 and 1993 and an increase in the number of ewes and calves lost. This represents only a small percentage of the livestock that may graze on the public lands.

The small percentage of land surface that the BLM has management authority over in the Casper District and on which APHIS-ADC could have access to pursue animal damage control makes the level of cumulative impacts attributable to the public lands insignificant. If you assume that 11 percent (percent of public land) of the coyote kills were attributable to the public land then only 289 coyotes (2,636 total) would have been killed under BLM authorization.

Overall ADC activities would not add significantly to the cumulative impacts of the number of coyotes that are removed from the ecosystems in the Casper District or in Wyoming or to the number of livestock lost from any of the alternatives.

No significant cumulative environmental impacts should occur to coyote or fox populations or to non-target species populations. This conclusion is based on the premise that the overall goal of the APHIS-ADC program is to minimize predatory animal impacts on livestock and the livestock industry while complying with the strict measures to ensure maintenance of predatory populations and non-target species as well as the protection of domestic animals, public safety, and threatened and endangered species. Predator control has been ongoing since the beginning of this century and populations continue to thrive - cyclicly fluctuating under the influence of prey availability. Predatory animals on the public lands in the Casper District are not in danger of eradication. Research has demonstrated that the coyote and fox, the principle targets of predator control, readily adapt to changes in their environment, and that, because of their prolific nature, they are not threatened with decline or eradication.

Private predator control programs will occur if APHIS-ADC is denied lethal methods of control. In Alternative 3, APHIS-ADC would not be available to provide assistance in situations where lethal methods of control are needed on public lands. However lethal control of the coyote and red fox will continue to occur on public and private lands by the general public for recreation, be stockgrowers to protect their livestock, and by independents for the stockgrowers. These animals are classified by the WGFD as predators and are hunted and trapped for sport and fur. Without APHIS-ADC administering predator control activities on public lands, there would be little or no accountability for control methods used; less consistent and accurate monitoring of livestock losses, predators and non-target species taken; and less professional help in conducting control. This could increase the opportunity for the abuse of control techniques, subsequent environmental damage, and potential for danger to humans, their pets, and non-target animals.

CHAPTER V. CONSULTATION AND COORDINATION

USDA, Animal Plant and Health Inspection Service
Wyoming Game and Fish Department
Wyoming Department of Agriculture
Wyoming Agricultural Statistics Service

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REFERENCES

Berg, W.E., and R.A. Chesness, 1978. *Ecology of Coyotes in Northern Minnesota.* Coyotes: Biology, Behavior, and Management, M. Bekoff (ed.), Academic Press, New York, New York.

Clark, F.W., 1972. *Influence of Jackrabbit Density on Coyote Population Change.* Journal of Wildlife Management, Vol. 36, pp. 343-356.

Connolly, G.E., and W.M. Longhurst. 1975. *The effects of control on coyote populations.* University of California, Division of Agricultural Sciences Bull. # 1872. 37 pp.

General Accounting Office, 1990. *WILDLIFE MANAGEMENT. Effects of Animal Damage Control Program on Predators.* Washington D.C.

Huegel, C.N., 1979. *Winter Ecology of Coyotes in Northern Wisconsin.* M.S. Thesis, University of Wisconsin, Madison, Wisconsin.

Kuchler, A.W., 1964. *Potential Natural Vegetation of the Conterminous United States.* American Geographical Society, Special Publication No. 36.

Niebauer, T.J., and O.J. Rongstad, 1977. *Coyote Food Habits in Northwestern Wisconsin.* Proceedings: 1975 Predator Symposium, Montana Forestry and Conservation Experimental Station, R.L. Phillips and C. Jonkel (eds.), University of Montana, Missoula, Montana, pp. 237-251.

Tigner, James R. and Gary E. Larson, 1977. *Sheep Losses on Selected Ranches in Southern Wyoming.* Journal of Range Management 30(4), July 1977.

U.S. Department of Agriculture:

Animal and Plant Health Inspection Service:

1986 Annual Report, Fiscal Year 1986, Casper, Wyoming. 11 pp.

1987 Annual Report, Fiscal Year 1987, Casper, Wyoming. 13 pp.

1988 Annual Report, Fiscal Year 1988, Casper, Wyoming. 13 pp.

1989 Annual Report, Fiscal Year 1989, Casper, Wyoming. 14 pp.

1990a Annual Report, Fiscal Year 1990, Casper, Wyoming. 15 pp.

1990b *Animal Damage Control Program - Draft Environmental Impact Statement.* Animal and Plant Health Inspection Service in cooperation with U.S.Forest Service and Bureau of Land Management.

1993 *Animal Damage Control Program - Supplement to the Draft Environmental Impact Statement.* Animal Plant Health and Inspection Service in Cooperation with the U.S. Forest Service and the Bureau of Land Management.

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1993 *Animal Damage Control Program - Supplement to the Draft Environmental Impact Statement.* Animal and Plant Health Inspection Service in cooperation with the U.S. Forest Service and Bureau of Land Management. Washington, D.C.

Wyoming Agricultural Statistics Service:

1993 *Wyoming Agricultural Statistics - 1993.* In cooperation with the Wyoming Department of Agriculture, National Agricultural Statistics Service, Wyoming Agricultural Statistics Service (WASS), Cheyenne, Wyoming.

U.S. Department of the Interior:

Bureau of Land Management:

1986 *Kemmerer Resource Management Plan Record Of Decision.* Bureau of Land Management, Rock Springs District.

1993 *Environmental Assessment. Proposed Predatory Animal Damage Control on Public Lands in Sweetwater, Lincoln, Uinta, and Sublette Counties, Wyoming.* Bureau of Land Management, Rock Springs District.

U.S. Fish and Wildlife Service:

1978 *PREDATOR DAMAGE IN THE WEST:A Study of Coyote Management Alternatives*

1979 *Final Environmental Impact Statement on Mammalian Predator Damage Management for Livestock Protection in the Western United States.* Office of Environmental Coordination. Washington, D.C. 789 pp.

1981a *Eastern Coyote.* Fish and Wildlife Service Bulletin WRL 1006, Washington, D.C.

1984 American Peregrine Falcon Rocky Mountain/Southwest Population Recovery Plan, in cooperation with the American Peregrine Falcon Recovery Team. USFWS, Denver, Colorado, 105 pp.

1992 *Animal Damage Control/Fish and Wildlife Consultation on Threatened or Endangered Species.* Memorandum from U.S. Fish and Wildlife Service, Washington, D.C., Acting Director Richard N. Smith to USDA, APHIS-ADC, Robert Melland, Washington, D.C.

Voight, D.R., and W.E. Berg, 1987. *"Coyote," Wild Furbearer Management and Conservation in North America.* M. Novak, J. Baker, M. Obbard, and B. Malloch (eds.), Ontario Trappers Association/Ontario Ministry of Natural Resources, Toronto, Ontario, Canada, pp. 344-357.soula, Montana, pp. 237-251.

Voight, D.R., et al., 1985. *"A Spatial Simulation Model for Rabies Control,"*. P.J. Bacon (ed.), Academic Press, London, England, pp. 311-349.

Wagner, F.H., 1972. *Coyotes and Sheep: Some Thoughts on Ecology, Economics, and Ethics.* 44th Utah State University Faculty Honor Lecture, Logan, Utah, 59 pp.

Weaver, J.L., 1979. *Influence of Elk Carrion Upon Coyote Populations in Jackson Hole, Wyoming.* Symposium on North American Elk Ecology, Behavior, and Management, M.S. Boyce and L.D. Hayden (eds.), University of Wyoming, Laramie, Wyoming.

Woodard, L.,and D. Hixon, 1994. *Livestock production: Weaning percentage: How do you compare?* Cow Country, Vol. 121, No. 8, pp. 8-9. Wyoming Stock Growers Association. Cheyenne, Wyoming.

Wyoming Game and Fish Department:

1988 "*Possible Black-Footed Ferret Sighting Reports.*" Updated 12-15-88.

1993 *Annual Report Upland Game and Furbearer Harvest - 1992.* Also, same reports 1974 - 1992. Wyoming Game and Fish Department, Game Division, compiled by Reg Rothwell.

1992 *LAWS - Revised and Updated March 1992.* State of Wyoming.

APPENDIX A

BLM Information Bulletin No. WY-94-060, "Clarification of Policy on Aerial Gunning for Predator Control"

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Wyoming State Office
P.O. Box 1828
Cheyenne, Wyoming 82003-1828

In Reply Refer To:

6830 (932)

November 10, 1993

Information Bulletin No. WY-94-060

To: District Managers

From: State Director

Subject: Clarification of Policy on Aerial Gunning for Predator Control

Questions have arisen on the statewide policy on aerial gunning for predator control by someone other than Animal and Plant Health Inspection Service (APHIS), over public lands administered by the Bureau. These persons are seeking the Bureau's permission to aerial gun over the public lands we administer per the directions in the Wyoming Department of Agriculture Predatory Animal Control Regulations.

A summary of the major provisions of these regulations include the following:

. . . Persons desiring State permits must secure approval of individual county predator control Districts where they wish to hunt . . ., no aerial hunting over private property without written permission of the private property owner. . ., and written authorization from the appropriate Federal agency.

The existing emergency control procedures apply only to APHIS actions. Predator Animal Boards (PABs) or those private individuals authorized by the PABs may perform predator control on or over Public Lands so long as they comply with all Wyoming State Statutes.

Prior to issuing the authorization, the following is a suggested list of documentation and coordination actions to require:

1. Require a copy of the supporting paperwork submitted by the local Predator Control District to the Wyoming Department of Agriculture, and/or ADC Form 14.

2. Require a copy of the permit granted by the State Department of Agriculture.

3. Consult with APHIS on any concerns they may have with the request. Require written concurrence from APHIS for authorization.

4. Seek the applicant's cooperation by personally discussing and reviewing the plans and constraints we have in place.

This sequence of actions should provide a basis for our decision and continue our cooperation with APHIS, PABs and state government agencies.

Any questions should be directed to Jim Murkin at 307-775-6113 or El Spencer at 307-775-6096.

Ron Brubaker

Distribution

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SCD (SC-210)	1
CF	2

APPENDIX B

M-44 CYANIDE CAPSULES; M-44 EPA USE RESTRICTIONS; EPA REGISTRATION NO. 35978-1

in

Using the M-44 in Coyote Damage Control,
Wyoming Department of Agriculture, 1993

The EPA placed 26 restrictions on the use of the M-44. These restrictions are part of the label, and must be followed completely. It is a violation of both federal and state law to "use a pesticide in a manner inconsistent with its labeling." State law provides for a $500 fine, and one year in jail for subsequent offenses. Federal law provides for fines up to $25,000, and one year in jail. Following are the 26 EPA Use Restrictions, along with a brief explanation.

1. **Use of the M-44 device shall conform to all applicable federal, state, and local laws and regulations.**

   Annual inspections by the Wyoming Department of Agriculture will ensure that applicators conform to all federal, state, and local laws and regulations.

2. **Applicators shall be subject to such other regulations and restrictions as may be prescribed from time to time by the U.S. Environmental Protection Agency (EPA).**

   Applicators will be notified by the Wyoming Department of Agriculture if other regulations or restrictions are prescribed.

3. **Each applicator of the M-44 device shall be trained in: (1) safe handling of the capsules and device, (2) proper use of the antidote kit, (3) proper placement of the device, and (4) necessary recordkeeping.**

   This restriction requires that prior to using the M-44, the applicator must attend an approved training school, where these four issues will be discussed.

4. **M-44 devices and sodium cyanide capsules shall not be sold or transferred to, or entrusted to the care of any person not supervised or monitored by the Wyoming Department of Agriculture.**

   This restriction allows only the licensed applicator to have capsules, and prohibits them from giving or selling them to any unlicensed applicator. Licensed M-44 applicators will be monitored, as per restriction #1.

5. **The M-44 device shall only be used to take wild canids: (1) suspected of preying on livestock, poultry, and federally designated threatened or endangered species, or (2) that are vectors of a communicable disease.**

This restriction prohibits the use of the M-44 to protect game animals.

6. **The M-44 device shall not be used solely to take animals for the value of their fur.**

   The M-44 cannot be used only to take furs, as its use is for the protection of livestock, poultry, and federally designated threatened or endangered species. It is legal to save the furs from coyotes and foxes taken by the M-44 coincidental to the protection of livestock.

7. **The M-44 device shall only be used on or within 7 miles of a ranch unit or allotment where losses due to predation by wild canids are occurring or where losses can be reasonably expected to occur based upon recurrent prior experience of predation on the ranch unit or allotment. Full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before applications of the M-44 are undertaken.**

   The livestock owner will have to document his losses prior to any use of M-44 devices on his property. The Wyoming Department of Agriculture provides the necessary form for this documentation. Each order of sodium cyanide capsules from the Wyoming Department of Agriculture is required to be accompanied by the Record of Livestock Losses. Failure to submit this form with the order will result in delays, and the order will not be processed until the Record of Livestock Losses is on file.

8. **The M-44 device shall not be used: (1) in areas within national forests or other federal lands set aside for recreation use, (2) areas where exposure to the public and family pets is probable, (3) in prairie dog towns, or (4) except for the protection of federally designated threatened or endangered species in national and state parks; national or state monuments; federally designated wilderness areas; and wildlife refuge areas.**

   The USDA/APHIS/ADC is the only authorized agency to use M-44 on federal land. The prairie dog town restriction is designated to protect the Black-Footed Ferret. In many cases prairie dog towns would be ideal M-44 locations, however, coyotes will cross other areas to reach the prairie dog town, and suitable locations can be selected along coyote travel routes to and from their destination.

9. **The M-44 device shall not be used in areas where federally listed threatened or endangered animal species might be adversely affected. Each applicator shall be issued a map, prepared by or in consultation with the U.S. Fish and Wildlife Service, which clearly indicates such areas.**

   It is the applicator's responsibility to consult with the U.S. Fish and Wildlife Service regarding any areas where federally listed threatened or endangered animal species might be adversely affected.

10. **One person other than the individual applicator shall have knowledge of the exact placement location of all M-44 devices in the field.**

    This person's name is required to be on the reporting forms in the space provided.

11. **In areas where more than one governmental agency is authorized to place M-44 devices, the agencies shall exchange placement information and other relevant facts to ensure that the maximum number of M-44's allowed is not exceeded.**

    The Wyoming Department of Agriculture coordinates with USDA/APHIS/ADC in any area in which more than one agency is involved.

12. **The M-44 device shall not be placed within 200 feet of any lake, stream, or other body of water,**

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provided that natural depression areas which catch and hold rainfall only for short periods of time shall not be considered "bodies of water" for purposes of this restriction.

Two hundred feet is not very far. If a suitable location can be found near a waterhole, one can also be found two hundred feet away.

13. **The M-44 device shall not be placed in areas where food crops are planted.**

Food crops are grains, sugar beets, pinto and great northern beans, and other crops which are planted for human consumption. The key words here are "planted" and "human consumption." Do not use M-44's in a wheat field unless the field has been harvested. They are allowable for use in a hay field.

14. **The M-44 device shall be placed at least at a 50-foot distance or at such a greater distance from any public road or pathway as may be necessary to remove it from the sight of persons and domestic animals using any such public road or pathway.**

Pertaining to this restriction, a public road or pathway in Wyoming is defined as any road which is fenced on both sides or dedicated to, or maintained by a government agency. A pickup trail across private land is not a public road or pathway. Common sense must prevail; do not place M-44's where the public can see them.

15. **The maximum density of M-44's placed in any 100-acre pastureland areas shall not exceed ten (10); and the density in any one (1) square mile of open range shall not exceed twelve (12).**

In some instances, this will require coordination and cooperative efforts between neighbors. One well placed M-44 will take coyotes and will be more successful than numerous poorly set devices.

16. **No M-44 device shall be placed within 30 feet of a livestock carcass used as a draw station. No more than four M-44 devices shall be placed per draw station, and no more than five draw stations shall be operated per square mile.**

Coyotes range over a large area and draw stations properly placed will, in many cases, be effective. If the coyote is attracted to the draw station he will find the M-44. If the maximum number of five draw stations is used then only two M-44's for three of the stations is allowed, and the two remaining stations will only be allowed three M-44's. (Refer back to EPA Use Restriction #15, maximum density per square mile = 12.)

17. **Supervisors of applicators shall check the records, warning signs, and M-44 devices of each applicator at least once a year to verify that all applicable laws, regulations, and restrictions are being strictly followed.**

Each applicator is required to submit their records once a month. Inspections by the Wyoming Department of Agriculture will ensure that applicators conform to all federal, state, and local laws and regulations.

18. **Each M-44 device shall be inspected by the applicator at least once every week, weather permitting access, to check for interference or unusual conditions and shall be serviced as required.**

If no access is able to be gained to a device for inspection, (i.e., device is buried under a snow drift), make this notation on the monthly M-44 report.

19. Damaged or nonfunctional M-44 devices shall be removed from the field.

Indicate on the monthly M-44 report form the number of damaged, nonfunctional, or missing devices, so an inventory can be maintained.

20. A M-44 device shall be removed from an area if, after 30 days, there is no sign that a target predator has visited the site.

If the problem has been solved, or if the target predator has not visited the site, the device shall be removed as required.

21. All persons authorized to possess and use sodium cyanide capsules and M-44 devices shall store such capsules and devices under lock and key.

PLEASE BE CAREFUL! Cyanide can, in the right circumstances, kill almost any animal. It is also required to placard the locked box with *Danger - Poison* signs. Be sure to store the capsules under lock and key.

22. Used sodium cyanide capsules shall be disposed of by deep burial, or at a proper landfill site.

Bury empty capsules in an isolated area two or three feet deep. Caked or faulty capsules should also be buried in an isolated area. Bury each capsule as soon as possible; do not collect them for later disposal.

23. Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.

- **a. Maintain entrances or commonly used access points to area in which M-44 devices are set shall be posted with warning signs to alert the public to the toxic nature of the cyanide and to the danger to pets. Signs shall be inspected weekly to ensure their continued presence and ensure that they are conspicuous and legible.**

- **b. An elevated sign warning persons not to handle the device shall be placed within 25 feet of each individual M-44 device.**

Each shipment of capsules will contain some signs; additional signs can be purchased from the Wyoming Department of Agriculture. The public is usually informed about M-44 devices and the dangers of sodium cyanide, so the use of signs is the best way to prevent accidents.

24. Each authorized or licensed applicator shall carry an antidote kit when placing and/or inspecting M-44 devices. The kit shall contain at least six pearls of amyl nitrite and instructions on their use. Each authorized or licensed applicator shall also carry on his person instructions for obtaining medical assistance in the event of accidental exposure to sodium cyanide.

At least one antidote kit containing six pearls of amyl nitrite is required to be purchased by the applicator when the first box of sodium cyanide capsules is ordered. The applicator must carry the kit on their person at all times while placing or inspecting M-44's. If an accidental discharge should occur while setting or inspecting the devices, it will be more convenient for the applicator to have the antidote kit in their pocket, if needed. Keep in mind that the amyl nitrite carries a labeled expiration date, and should be replaced prior to the expiration date on each kit.

25. In areas where the use of the M-44 device is anticipated, local medical people shall be notified of the intended use. The notification may be through a poison control center, local medical society, the Public Health Service, or directly to a doctor or hospital. They shall be advised of the antidotal and first-aid measures required for the treatment of cyanide poisoning. It shall be the responsibility of the supervisor to perform this function.

The Wyoming Department of Agriculture has contacted the appropriate agencies/facilities. However, M-44 applicators should also contact their local medical facilities/services and provide the necessary first aid information to their local physicians as a means of assuring that appropriate first aid measures are available.

26. Each authorized M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Such records shall include, but need not be limited to:

- **a. The number of devices placed.**
- **b. The location of each device placed.**
- **c. The date of each placement, as well as the date of each inspection.**
- **d. The number and location of devices which have been discharged and the apparent reason for each discharge.**
- **e. Species of animals taken.**
- **f. All accidents or injuries to humans or domestic animals.**

These records are required to be kept. All of the above items are reported on the monthly M-44 report form. The monthly M-44 report form is self-carboning paper. The original set is sent to the Wyoming Department of Agriculture, while the applicator retains the copy.

REGISTRATION OF THE M-44 DEVICE AND SODIUM CYANIDE CAPSULES IS DEPENDENT UPON ALL 26 RESTRICTIONS BEING FOLLOWED BY ALL PRIVATE AND COMMERCIAL M-44 APPLICATORS.

NOTIFICATION OF INTENT TO PUBLISH—FORM 3868

To insure that your publication will receive proper consideration for inclusion in our Sales and Depository Library programs, please supply all of the requested information available at the time this form is submitted. Please submit at least 30 days before sending in your Printing Requisition, whether you recommend your publication for sale or not. Two copies of the completed form should be sent to: Documents Control Branch (SSMC), U.S. Government Printing Office, Washington, DC 20402.

Stock Number ______ (SuDocs will provide.)
Printing and Binding Req. Number ______
RPPO Control Number ______
Date Submitted 4/5/94

Please type. Form is aligned for typewriter use.

Part I. To be completed by AGENCY PUBLISHER or PROGRAM OFFICER.

Glen Nebeker (Publisher, Program Officer, or Author's Name)
Planning & Enviromental Spec. (Position or Title)
(307) 261-7644 (Area Code) (Phone)
Dept. of Interior (Publishing Agency)
Bureau of Land Management (Bureau)

1. Title of publication Decision Record and Finding of No Significant Impact for the Environmental Assessment Predatory Animal Damage Control on Public Lands
2. What publication does it supersede? Stock Number N/A Title ______
3. How does this compare with previous editions? N/A
4. Intended target audiences. (Please be as specific as possible, e.g., indicate *fossil fuel energy researchers* instead of *researchers or scientists.*)
   Interested Publics and affected agencies and organizations.
5. Brief description of contents Decision based on the environmental assessment to place controls on carnivores within "Planned Control" areas.
6. Quantity for agency distribution 250 Specific audiences for agency distribution ______
7. Recommended for sale ☐ Yes—Quantity ______ ☒ No Reason for recommendation Free Distribution
8. Suggested audiences for sale copies ______
9. Will agency mailing lists be used for your promotional mailings? ☐ No ☒ Yes If yes, number of addresses available ______

0. Please check types of promotions planned by agency for sales copies:
   - ☐ Flyer—Quantity ______ Audiences ______
   - ☐ Press Releases—Quantity ______ Audiences ______
   - ☐ Review Copies—Quantity ______ Audiences ______
   - ☐ Advertising in: ☐ Agency Publications ☐ Paid Media ☐ Other ______ Est. Total Circulation ______

1. Depository Library distribution ☐ Yes ☐ No If no, reason (See reverse for explanation) ☐ 1) ☐ 2)

art II. SPECIFICATIONS: To be completed by AGENCY PRINTING OFFICER. Jerry Carter (Printing Officer's Name) (307) 775-6047 (Area Code) (Phone)

2. Publication description: ☐ Non-subscription ☐ Subscription ☐ New ☐ Revision ☐ Reprint
   Series—Number BLM/WY/ES-94/010+4210 Anticipated revision date ______ Series—Title ______
3. FORMAT: ☐ book ☐ tape ☐ folder ☐ microform ☐ form ☐ other ______ ☐ map
   COVER: ☐ self ☐ paper ☐ casebound ☐ other ______
   BINDING: ☐ saddle stitch ☐ looseleaf ☐ banded ☐ side stitch ☐ punched ☐ shrink wrapped ☐ adhesive ☐ drilled ☐ other ______ ☐ sewn
4. Unit of Issue EA No. of Pages 81 No. of Illustrations 4 Trim Size 8½"x11" No. of Foldins None
5. 4-color process ☐ Yes ☒ No Smallest type size in points ______
6. Jacket No. ______ Program No. ______ Print Order No. ______
7. Printer: ☐ Main GPO ☐ Deal Direct ☒ Waiver ☐ GPO Regional Office (City) ______

art III. To be completed by SUPERINTENDENT OF DOCUMENTS

8. SuDocs riding for ______ copies ☐ Not for sales ☐ For sale line only ☐ Individual cartons ☐ Cartons ☐ Other ______
9. Dep. Lib. riding for ______ copies File Copies ______ IES Copies ______ Item number ______
   IMS initials/Date ______

art IV. This space may be used by AGENCY to record SuDocs information. Please notify ☐ publisher ☐ printing officer of rider decision.

PO will ride for ______ paper copies ______ cloth copies
aper S/N ______ Price: $ ______ Cloth S/N ______ Price: $ ______

PO Form 3868 (R 5-88)

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If you have any questions or need help with the Sales, Depository Library, or Marketing programs, please call:

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Chief, Documents
Control Branch
(202) 275-3343

Library Programs Service
Chief, Depository
Administration Branch
(202) 275-1071

Marketing Office
Director of Marketing
(202) 275-3634

Most of the items on this form are self-explanatory. Additional explanations for some items are given below:

Part I—Agency Publisher or Program Officer: The individual named should be knowledgeable about the content, planned distribution, and marketing of the publication (e.g., editor, publisher, author, or program officer).

2. What publication does it supersede? Supply the publication title(s), series number and stock number(s) of the edition(s) which the new publication replaces.

3. How does this compare with previous editions? Specify any differences in information, specifications, and content in the new edition.

5. Brief description of contents: If a description is contained in the preface, foreword, introduction, or title page, you may attach a copy of the appropriate section instead of filling in this section.

6. Specific audiences for agency distribution: Specify what target audience and how many copies of the publication your agency will be distributing.

7. Recommendation for sale: If yes, include specific audiences that might be targeted and the estimated size of each audience. Please be as specific as possible, e.g., indicate *energy researchers* instead of *scientists*. If no, explain.

11. Depository Library Distribution: 44 U.S.C. Section 1902 requires that Government publications be made available to depository libraries, unless they are:

1. "determined by their issuing components to be required for official use only for strictly administrative or operational purposes *which have no public interest or educational value*" [Emphasis added]

2. "classified for reasons of national security"

If you have answered "no" to question 11, you must indicate into which of the above exception categories your publication falls. (The agency does not bear the cost of depository copies if the document is printed through GPO.)

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Please check types of promotions planned by agency for sales copies:
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Unit of Issue EA No. of Pages 81 No. of Illustrations 4 Trim Size 8½"x11" No. of Foldins None
4-color process ☐ Yes ☒ No Smallest type size in points ____
Jacket No. ____ Program No. ____ Print Order No. ____
Printer: ☐ Main GPO ☐ Deal Direct ☒ Waiver ☐ GPO Regional Office (City) ____

III. To be completed by SUPERINTENDENT OF DOCUMENTS

SuDocs riding for ____ copies ☐ Not for sales ☐ For sale line only ☐ Individual cartons ☐ Cartons ☐ Other ____
Dep. Lib. riding for ____ copies File Copies ____ IES Copies ____ Item number ____
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) will ride for ____ paper copies ____ cloth copies
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END

10-19-94